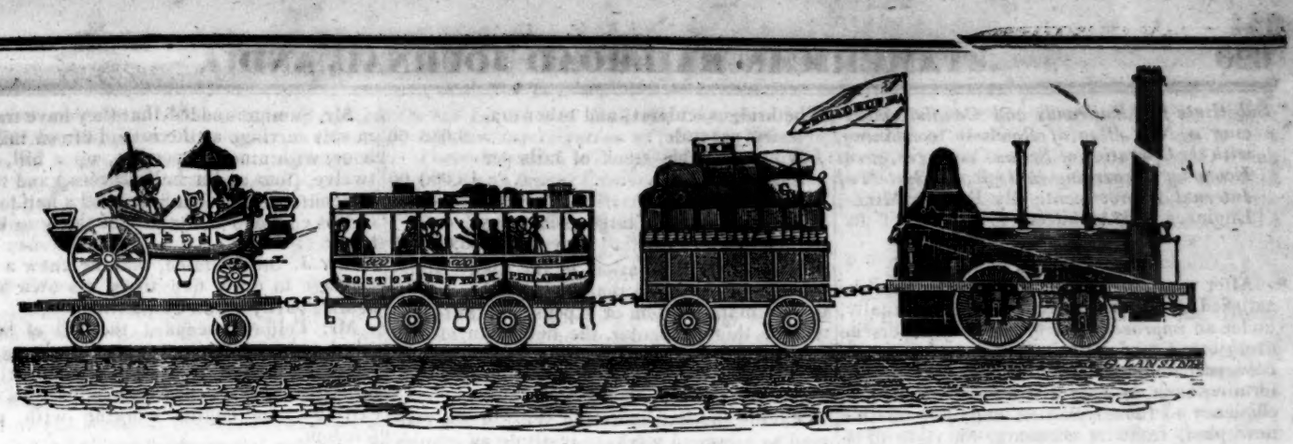

AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, OCTOBER 11, 1834.

It was with the greatest pleasure that we inserted in our paper of last week the communication from the Chief Engineer of the Tuscumbia, Courtland and Decatur Railroad. In our previous descripton of this important work, to which he refers as being incorrect, we had endeavored to embody the little information regarding it that we were enabled to procure from hearsay and from the newspapers of the vicinity. Such information cannot, of course, be so accurate or detailed as is our wish to make it; but was given for want of better.

We are grateful for communications that furnish authentic details, and sincerely hope that the example thus afforded may be generally followed by others possessing similar opportunities.

American Journal of Science and Arts, for July, August, and September.—The number before us is in no wise calculated to diminish the well-earned reputation for ability which this journal has so long possessed. Amid its varied contents, we have read with the greatest pleasure the Report on the projected Geological and Topographical Survey of the State of Maryland. This report is intended only as an introductory account of the geology and hydrology of the State, with a view of inducing the Legislature, in its coming session, to authorize their more thorough investigation. There is but little doubt, we learn, but what a liberal appropriation will be made, to bring to a completion what the authors of this report have so successfully commenced. But why is it, we would here ask, that while such States as Massachusetts, Maryland, Virginia, and Tennessee, have either completed or are now carrying on surveys of a like character, our own State has done nothing towards a developement of her physical geography? As regards its "mineral constitution," we may safely say, that with the exception of the iron at Ramapo, and the salt at Salina, there is scarcely any thing known. That our State is eminently rich in wealth of this nature, from which might be drawn a fruitful source of revenue, there is no reason to doubt. Our public as well as individual interest require that that scientific information on the subject of our agricultural and manufacturing resources, which can only be obtained by means of surveys like the above, should be furnished without delay.

Richmond and Potomac Railroad.—We have conversed with Mr. Hunter, one of the engineers who have been, for some time past, engaged in experimental surveys for the route of the railroad from Richmond to Fredericksburg, and learn that the face of the country presents no serious obstacle, and that the Western Line has proved less difficult than was anticipated. We learn also that, on the western route, there has been a relinquishment of land in all instances except two or three, where the property belongs to orphan children, and that the disposition of the people, towards the work, as might be inferred from what we have stated, is exceedingly favorable. It is thought to have an advantage over the other route in a greater abundance of timber and stone, but very little in distance.

Engineers are now engaged in locating 17 miles of the road from Richmond to the ridge south of the Pamunkey—a portion common to the rival routes, which will be prepared for letting forthwith. The Board of Directors will decide very soon which course the road will take thence, and the expectation is that by February next a location of the road will be made to within 15 miles of this place. Every thing indicates that the work will be prosecuted with vigor.—[Fredericksburg paper.]

[*From the Newark Advertiser.*]

New Jersey Rail Road.—It is now two weeks since this work was opened for public use, and we learn that its success in furnishing facilities for travelling has exceeded the most sanguine anticipations. Some evidence of this may be inferred from the fact, that during the first week 2026 passengers were carried between Newark and New York; and that last week, (being the second) ther were 2548.—This number we are told includes only the actual passengers as standing on the books of the Co. and is exclusive of officers, contractors and others, some of whom constantly traverse the Road, with a view to detect and repair any little imperfections or injuries in the work; which are sometimes incident to the first operation of Rail Roads, and thus to secure the entire safety of the traveller. No accident as we are informed, has taken place, which has in the slightest degree resulted in the injury of any person. The cracking of two cast iron wheels, and the breaking of a pair of shafts the first week, are the only casualties worth mentioning and the issue of these rather go to establish the security of this mode of conveyance, since on the occurrence the cars were promptly and gently brought to a stop, with the wheels remaining unmoved from the rails.

A foreign correspondent of the United States Gazette says—

"The steamboats, on the Clyde, are the best models in the kingdom, and much celebrated. I believe Mr. Wood, of Port Glasgow, is entitled to the most credit on this account; indeed, the models of the canal boats are his. The fastest boats and finest models are of sheet iron. This material is coming into very general use, both for steamboats and canal boats, and it is probable that, in a few years, it will supersede wood entirely. The iron boats are more buoyant, and, for the same tonnage, are made smaller, as the material takes up much less room. This is of great advantage in canal boats, where the size is limited by the locks; and I cannot help thinking that the gentlemen engaged in trading upon our canals, would find it much to their advantage, to turn their attention to boats of this description. The cost will not much exceed the expense of wooden boats, while the term of duration, and additional burthen of iron boats, to pass the same locks, will more than compensate for this additional expense."

Steam Carriage Accident.—One of the steam carriages plying from Glasgow to Paisley was upset on Tuesday, from the breaking of a wheel. The boiler burst, and the concussion was most dreadful; thirteen passengers were more or less injured, of whom Capt. E. B. Gellner, from Ireland, was killed, and Mr. Morrison, a merchant, of Gallowgate, and Mr. Blackwood, a commercial traveller, are not expected to survive. Mr. Serjeant, of Leicester, had his leg amputated. Several persons were scalded. A great sensation was produced in Paisley and Glasgow, and hundreds set out to view the scene of the disaster.—[English paper.]

Substitute for Railroads and Canals, embracing a New Plan of Roadway, combining, with the Operation of Steam Carriages, great Economy in carrying into effect a System of Internal Improvement. By ROBERT MILLS, Engineer and Architect.

[Continued from page 611.]

NO. VIII.

After what has been advanced, we must be satisfied that steam carriages will eventually, under an *improved state of roadway*, supersede every other mode of conveyance; and we are now prepared to show the practicability of forming such an *improved* way as will secure efficiency to these vehicles, and give to this new plan, from its economy, the right to be considered a proper "substitute for railroads and canals."

Let us briefly look at the cost of executing the present plans of internal improvement, and compare them with the cost of executing the plan of the "substitute" proposed.

Under the most favorable character of country, the expense of constructing a railroad, or a canal, is very considerable. The average cost for a mile of the Newcastle and Frenchtown railroad, of one track, is $22,000. The cost of the Baltimore and Ohio railroad, as far as it is completed; and including two sets of tracks, is stated to be $27,128 per mile. The Washington and Baltimore railroad, also of two tracks, is estimated to cost $50,000 a mile, besides contingencies. The Philadelphia and Columbia railroad, of two tracks, cost per mile $28,173. The railroad from Albany to Schenectady, of two tracks, cost upwards of $30,000 a mile. The Charleston (South Carolina) and Hamburgh railroad, with two tracks, will cost per mile about $100,000.* Taking the average expense of all these roads, and we have the startling result of upwards of $28,000 cost per mile. This is a serious expenditure for works of this nature, and which must operate to check the spirit of internal improvement in our country, unless remedied by the introduction of a more economical plan for constructing works of inter-communication.

If we refer to the cost of *canals*, we shall find but little difference in expense of construction, compared with railroads, under the same circumstances of country. The Chesapeake and Ohio canal has cost, as far as completed, per mile, about $30,000. The Erie canal, (New-York,) $21,000 per mile. The canals of Pennsylvania, $25,000 per mile. The James river canal, $20,000 per mile; and the Ohio canals $11,000 per mile. The canals of Great Britain cost, on an average, about $35,000 a mile.

NO. IX.

Let us for a few minutes examine into some of the *details* of cost of constructing a railroad.

Upon the 2d, 3d, 4th, and 5th divisions of the Baltimore and Ohio railroad, the expense of graduation and masonry, preparatory to laying the rails, averaged per mile, $8,540 00

The cost upon the 1st division per mile, exceeded	30,000 00
The average cost per mile, laying a double set of tracks, ...	11,623 00
Upon the Newcastle and Frenchtown railroad, the graduation and masonry of bridges, &c., cost per mile, ...	$12,000 00
Laying the rails, including horse path, per mile, ...	5,370 00
Purchase of land and other incidental expenses, per mile, . .	4,630 00
Upon the Washington and Baltimore railway, the graduation alone is estimated at per mile, ...	$29,557 00
The bridges, culvert, and other masonry, per mile, ...	9,083 00
Laying a double track of rails per mile, ...	15,000 00
Making up the large sum per mile, of	$53,640 00

Upon an examination of the above statements, we shall find that the *grading* constitutes a material item of expense in railroads; and in this particular, the new plan of road proposed will have a decided advantage, as the expense of grading may be greatly lessened.

Taking the Baltimore and Washington railroad as a ground work, to institute an inquiry as to the comparative expense of the two plans of road, we shall have the following results:

1st. Cost of grading, bridging, and other masonry, and laying a double track of rails on the present plan, per mile, . .	$53,640 00
Cost of grading, bridging, &c. and forming a double wheel track upon the new plan, per mile, .	13,600 00
Difference of cost of the two plans, per mile, ...	$40,040 00
2d. 29 miles of railway upon the present plan, will cost, as per estimate of the engineers, ...	$1,555,529 00
38 miles of roadway upon the new plan proposed, will cost .	546,800 00
Difference in favor of new plan,	$1,008,729 00

For the railroad, I have assumed only the distance from the Patapsco, where it would branch off from the Baltimore and Ohio railway; but for the new plan, I have taken the whole distance from city to city, so that the economy of the latter plan may be made more manifest. Were we to draw the comparison of cost between equal distances, the difference in favor of the new plan, instead of being $1,008,729, would be $1,691,489, calculating upon commencing and ending both roads at each city.

The saving of a million of dollars in this work, is certainly a matter of importance to *the* company that has undertaken it, and to the community at large, as it would necessarily reduce the expenses of travelling on the line, *in* the ratio of reduction of the cost of road.

NO. X.

The geological structure of the country between Washington and Baltimore necessarily subjects any line of road or canal laid out upon it to great expense in construction. If a million of dollars can be saved in the building of such a road, it ought certainly to be saved, as this sum could be better applied to other objects more important. I have shown in the preceding number, that were the new plan of road substituted for a railroad between these two cities, there would be a saving equal to $1,008,729.

Upon the new plan of road proposed, there would be such an improvement made upon the common or turnpike road, as would render it little inferior for the work of steam carriages to railroads; and we have seen, from the practical operation of these engines upon common roads, detailed in the former numbers, their capacity to ascend and descend inclinations of several degrees, which renders their working superior on these, than on railroads. Between Washington and Baltimore, it is not probable that the greatest inclination need exceed three degrees, and this confined to few points. Now, by referring to the working of the steam carriages on the English roads, we find that Mr. Ogle's carriage, weighing three tons, ascended a hill rising *one in six*, (nine degrees,) at sixteen and a half miles per hour, and four miles of the London road, a continued elevation, at the rate of twenty-four and a half miles per hour, loaded with people; and that his engine was capable of carrying three tons' weight in addition to its size.

Mr. Summers added, that they have travelled in this carriage at the rate of fifteen miles per hour, with nineteen persons, up a hill, one in twelve, (four and a half degrees,) and that he has continued for four hours and a half to travel in this carriage at the rate of thirty miles per hour.

Mr. J. Stone stated, that he knew a steam carriage to draw five times its own weight nearly, partly up an inclination.

Mr. Telford ascended the hill of Shirley, (six hundred feet long,) (nine degrees pitch,) in a steam carriage, at a velocity of nearly five miles per hour, with fourteen persons on the carriage, the engine working with perfect freedom.

NO. XI.

From what has been advanced, we perceive that locomotive engines are better adapted to common than to railroads, where considerable ascents have to be overcome. The useful operation of a steam engine on a railroad ceases when the ascent equals 2 deg. 18 min., or 211 feet in the mile. Whereas, upon a common road of this inclination, the same engine would not only draw a load equal to itself, but run with a velocity of sixteen miles an hour. With half this elevation of plane, a ten-horse engine, on a railroad, will draw thirty tons without the wheels slipping. Upon a common road, this power would draw up the same elevation, nearly sixty tons. In a hilly country, therefore, the superiority of this motive power would be best manifested on common roads. And when these roads are *improved upon the plan proposed*, these engines, working on the same, in their general effect, would be found equal, if not superior, to the operation of the same power on railroads; and if we take into calculation the difference of expense of the two roads, there is no question but that the plan of road proposed ought to be adopted in preference to railway, whether for the internal commerce of a country, or the transportation of passengers.

The great difference of expense between the labor of horses and that of a steam engine, even on common roads, shows the importance of the speedy application of this power in place of animal power.* In order to estimate the comparative expense between horse and steam power, for drawing carriages on common roads, Mr. Gurney took the relative expense on one hundred miles of ground, for working a common stage coach by steam and horses, and ascertained that the carriage may be worked by *steam* at *one-fifth* the expense of horses.

NO. XII.

It will be satisfactory to many, to see the data by which Mr. Gurney determined the important fact, that the difference between horse and steam power on common roads is one-fifth in favor of the latter.

Mr. G. calculates the first cost, wear and tear of the coach *drawn*, in every respect the same in both cases. The expense of men to manage is about the same also. In one case there is a coachman and guard; in the other, an engineer and director. The difference of expense of *power*, therefore, only remains to be determined. To work a coach well with horses, one hundred miles up and one hundred miles down, once a day, will require one hundred horses. A horse a mile is the present calculation for doing the work.

Averaging each horse at $111 00 amounts to	$11,100 00
Three steam carriages will do the same work; and the expense of each will be $2,220, or for the three, ...	6,660 00
A saving consequently in the first outlay in capital, of	$4,440 00

* The great disparity between the cost of this railroad, compared with the others named, may be accounted for from its running through an *alluvial* and level region, and being constructed upon a new and more economical plan; peculiarly adopted to an alluvial and swamp district of country. This plan of road was designed by Mr. Mills, late Engineer of that State, and now of this city.

* Recent intelligence from Belgium states that steam carriages have been introduced with great success upon the common roads of that country; and there was little doubt of their superior economy and utility to animal power.

The wear and tear of horses may be estimated at $22.20 each per annum—and on the one hundred horses, ...	$2,220 00
The wear and tear of three steam carriages will not exceed $444 per annum—and for the three per annum, ...	$1,332 00
Saving in wear and tear, . . .	$888 00
The expense of shoeing, keeping, provision, attendance, harness, &c. per day, of one hundred horses, about	$66 67

The expense of fuel for two carriages, one up, the other down, doing the same work, will be that of one hundred bushels of coke at eleven and a half cents per bushel, say $11 50

Or, if we take twenty-three cents per mile, per horse power, it will be about the same. The expense of fuel for the steam carriages will be on an average about six cents. In some coal districts it will not exceed two cents per mile, while in other situations, it will amount to twelve cents. No expense of stables is taken into this estimate, which is considerable when compared with sheds for coke and water.

ABSTRACT.

Horse power.

Outlay for horses, ...	$11,100 00
Wear and tear of horses per ann.	1,220 00
Shoeing, keeping, attendance, provision, harness, &c., per day, for 100 horses, ...	66 60
	$13,386 60

Steam power.

Outlay for steam carriages . . .	$6,660 00
Wear and tear of steam towing carriages, ...	1,632 00
Fuel for steam carriages, half a bushel per mile travelled, at 12½ cents per bushel, ...	11 50
	$8,003 50
Balance, saving in favor of steam power, ...	$5,323 10
	$13,386 60

NO. XIII.

From the preceding calculations we find that the saving between the use of steam and horse power is nearly two-thirds in favor of the steam—and this under all the disadvantages of common roads; what may we estimate then to be the difference under an improved state of road?

Mr. Gurney stated that passengers could be carried at one-half the rate by steam carriages that they are by the common carriage, and if there were properly paved roads the expense would be reduced one half again; or, in other words, the stage-fare in a carriage propelled b steam would be only one-fourth of the stag y fare in a carriage drawn by horses.

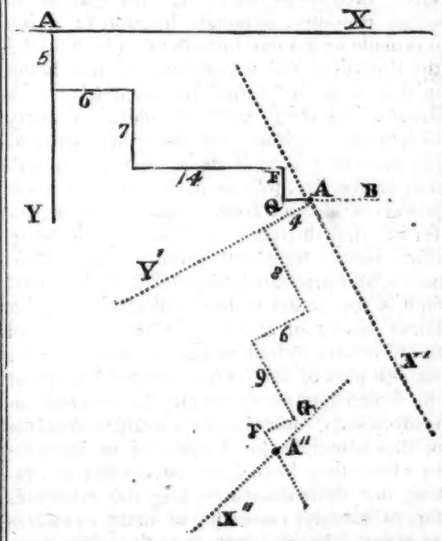
To illustrate this, we will suppose a road to be constructed between Washington and Baltimore upon the improved plan proposed, then the present stagefare between these two cities being three dollars for each passenger, might be reduced to seventy-five cents for each, and all expenses of transportation paid.* Now, upon the railroad it is judged not expedient to charge less than $2 a passenger, for the simple interest per annum on the cost of the road, independent of the cost of repairs, superintendence, steam carriages, &c., will amount to $100,000—and 60,000 passengers a year, at $2, will be only $120,000; whereas the simple interest on the cost of the new plan proposed as a substitute, will be but $33,000 per annum—and 60,000 passengers a year at $2, would be $120,000.

* Mr. Hancock estimated the expenses of his steam carriage about $15 a day, including all expenses attached to the coach, wages for engineer, steersman, fuel, oil, &c., and the distance travelled 100 miles. His carriage accommodated 15 passengers, which made the expense of each passenger one cent per mile, or $1 for 100 miles.

On the Location of Railroad Curvatures; being an Investigation of all the Principal Formulas which are required for Field Operations, in laying Curves and Tangent Lines, to pass through Given Points. By J. S. Van De Graaff. Continued from page 548. [For the American Railroad Journal.]

In a long curve it cannot be expected, in consequence of little inaccuracies which are unavoidable in chaining, deflecting, &c., that the stations will be found, when they come to be actually traced, to agree *exactly* with the point obtained for an integer chain, by the system of co-ordinate axes; but the difference will not be such as to produce any sensible derangement in subsequent parts of the curve. And it may be observed that the point $\left\{\begin{array}{l} x=a+b+c+h \\ y=d+e+f+h \end{array}\right\}$, which was selected only for the sake of convenience in having the change of curvature to occur at the extremity of a *full chain*, when the whole line comes to be ultimately traced with the proper curvatures, will be situated within the nearest full chain of the given point $\left\{\begin{array}{l} X=a+b+c \\ Y=d+e+f \end{array}\right\}$; and the same curve which meets the former point will also *pass through* the latter, if n be the nearest integer number *greater* than N.

The following example will more fully explain the principles contained in the present article. Let AX be a given tangent line, and A the given origin of a certain curve which is required to be laid in such a manner as to pass through the two points F and G, whose positions are given.



Take the lines indicated by the figures 5, 6, 7, and 14, to represent a system of rectangular lines, traced from the primitive origin at A, to the *first designated point* F; and let those figures indicate the length of each line respectively in chains, as determined by measurement in the field. The equations for the point F will then be, $\left\{\begin{array}{l} X=6+14 \\ Y=5+7 \end{array}\right\}$; that is, X = 20 and Y = 12; and therefore by (XV.) Cot. $\frac{1}{2}D''=\frac{20}{12}=1.66667$; or, $\frac{1}{2}D''=30°\ 58'$; or, $D''=61°\ 56'$. And again by (XV.) $\text{Sin. } T=\frac{\text{Sin. } 61°\ 56'}{40}=\frac{.88240}{40}=.02206$; or, $T=1°\ 16'$, which is the modulus of curvature necessary to trace a curve from the origin at A, passing through the first given point F. And now to determine whether the point F will coincide with an integer number of chains, in the curve, from the origin A, we have by (XVI.),

$$N=\frac{61°\ 56'}{2°\ 32'}=\frac{61.93}{2.53}=24.48;$$

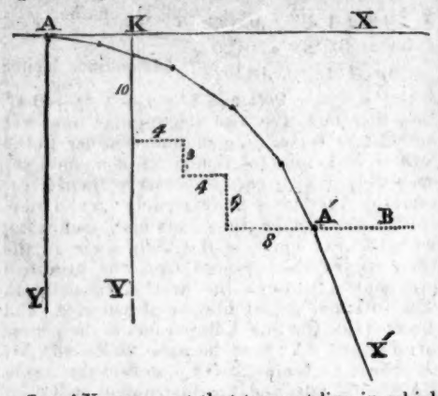
which is not an integer number. The point F, therefore, does not correspond to an integer number of chains in the curve; and a new point, A', must in consequence be found, which will coincide with the extremity of the 25th chain *in the same curve*. We then have $n=25$, $T=1°\ 16'$; or, $2nT=63°\ 20'$; and by (VII.) $x=\frac{\text{Sin. } 63°\ 20'}{2\text{ Sin. } 1°16'}=\frac{.89363}{.04422}=20.21$ chains, $y=\frac{1-\text{Cos. } 63°20'}{2\text{ Sin. } 1°16'}=\frac{.55120}{.04422}=12.47$ chains. Hence $h=x-X=+0.21$, and $k=y-Y=+0.47$. Let, therefore, the two rectangular lines FQ and QA be traced in a manner similar to the former, and equal to .47 and .21 of a chain respectively, taking care to preserve their directions by references more remote; and a new station A' will be thus obtained, coinciding with the extremity of the 25th chain in the same curve, which passes from the primitive origin at A through the first given point F. The instrument may now be placed at A', and directed into the line A'B, parallel to the primitive tangent AX; and because $2nT=63°\ 20'$, therefore, agreeably to (IV.), deflect the angle $BA'X'=63°\ 20'$, and the instrument will then indicate the true direction A'X', which is *tangent at the station* A', to the curve subsequently to be traced from the primitive origin at A.

Now, take A'X' and A'Y', for a new system of rectangular co-ordinate axes, agreeably to which let a second system of rectangular lines be traced from the new origin at A', and terminating in the *second given point* G, and indicated in chains by the figures 4, 8, 6, 9, respectively, as before. The equations for the point G will then be $\left\{\begin{array}{l} X=8+9 \\ Y=4+6 \end{array}\right\}$; that is, X = 17, and Y = 10; and therefore by (XV.) Cot. $\frac{1}{2}D''=\frac{17}{10}=1.70000$; or, $\frac{1}{2}D''=30°\ 28'$; or, $D''=60°\ 56'$. And again by (XV.), $\text{Sin. } T=\frac{\text{Sin. } 60°\ 56'}{34}=\frac{.87406}{34}=.02571$; or $T=1°\ 28'$, which is the modulus of curvature necessary to trace a curve from the new origin at A', passing through the second given point G. And now to determine whether the point G will coincide with an integer number of chains in the curve, from the new origin at A', we have by (XVI.), $N=\frac{60°\ 56'}{2°\ 56'}=\frac{60.93}{2.93}=20.80$; which is not an integer number. The point G, therefore, does not correspond to an integer number of chains in the curve; and a new point, A'', must in consequence be found, which will coincide with the extremity of the 21st chain, *in the same curve*. We then have, $n=21$, $T=1°\ 28'$: or, $2nT=61°\ 36'$; and by (VII.), $x=\frac{\text{Sin. } 61°\ 36'}{2\text{ Sin. } 1°\ 28'}=\frac{.87965}{.05120}=17.18$ chains, $y=\frac{1-\text{cos. } 61°\ 36'}{2\text{ sin. } 1°\ 36'}=\frac{.52438}{.05120}=10.26$ chains. Hence, $h=x-X=+0.18$, and $k=y-Y=+0.24$. Let, therefore, the two rectangular lines GP and PA'' be traced in a manner similar to the former, and equal to .24 and .18 of a chain respectively; and a new station, A'', will be thus obtained, coinciding with the extremity of the 21st chain in the same curve which passes from the new origin A', through the second given point G. The instrument may now be placed at A'', and directed into the line A''D, parallel to the first new tangent A'X'; and because $2nT=61°\ 36'$, therefore, agreeably to (IV.), deflect the angle $DA''X''=61°\ 36'$, and the instrument will then indicate the true direction A''X'', which is *tangent at the station* A'', to the curve subsequently to be traced from its proper origin at A'.

The calculations of the two cases in this example have been *made out in full*, and expressed verbatim, with the exception only of such words as were peculiar to each case, in order that the principle might be at once comprehended by *all*; for it constitutes one of the most important *systems of operations* connected

with the subject of curvatures, when properly understood and skilfully managed.

18. It is proposed to determine the modulus of curvature which will trace a curve from a given tangent line, and from a given *point therein*, in such a manner as to touch another right line given in position.



Let AX represent that tangent line in which the origin of the required curve is *unknown*, and A′X′ that in which the origin of the curve is given at the point A′. Select any arbitrary point K, in the *former* tangent line AX, for the origin of a system of rectangular co-ordinate axes KX, KY: and parallel respectively to those axes let a system of rectangular lines be traced from the origin of the co-ordinates at K, and terminating at that *origin of the curve* which is given in the other tangent line A′X′ at the point A′; and by means of those rectangular lines let the angle BA′X′ be *measured*, and denoted by D, and which will express the inclination of the two given tangents AX and A′X′ to each other. Take the equations

$$\left.\begin{matrix} X = a + b + c + \text{&c.} \\ Y = d + e + f + \text{&c.} \end{matrix}\right\},$$

as *given* by means of those rectangular lines, and explained in the preceding articles. It is then very evident that the value of the ordinate Y, as thus determined, will not, in any manner whatever, depend upon the point which was selected in the tangent line AX, for the *origin of the co-ordinates*; and consequently that value of Y will express the true ordinate which corresponds with the given point A′ in the required curve, as estimated from that *origin of the curve*, which is required to be situated somewhere in the given tangent line AX. And it hence follows from (VII.), that, $Y = \frac{1 - \text{Cos. } 2nT}{2 \text{ Sin. } T}$. But, $D = 2nT$, as appears from (IV.); and this value being substituted in the expression for Y, the following formula will result:

$$\text{Sin. } T = \frac{1 - \text{Cos. } D}{2Y}. \qquad \text{(XVII.)}$$

And thus the modulus of curvature of the required curve may be easily computed after tracing a system of rectangular lines

$$\left.\begin{matrix} X = a + b + c + \text{&c.} \\ Y = d + e + f + \text{&c.} \end{matrix}\right\}.$$

But that origin of the required curve, which is situated somewhere in the given tangent line AX, will also in some cases be wanted. Let that origin be at A, and put $\propto = AK$; and then $X = \propto$, and Y will evidently be the co-ordinates of the point A′, as estimated from the origin A, and axes AX, AY. Hence, by (XIII.) Cot. $\frac{1}{2}D = \frac{X = \propto}{Y}$; or, eliminating $\propto$; the result is,

$$\propto = Y \times \text{Cot. } \tfrac{1}{2}D. - X. \qquad \text{(XVIII.)}$$

Which makes the required origin known; but in using this formula, it must be observed, that the hypothesis here assumed is, that $\propto$ is considered *positive* when it is measured immediately *opposite* to the direction of X from the selected origin of the given co-ordinates X and Y; and consequently, when $\propto$ comes out *negative* from (XVIII.), it must be taken in a direction *coinciding* with X.

Example. Let a system of rectangular lines be traced in a manner similar to those represented upon the figure by the figures 10, 4, 3, &c.; and let those figures denote the length of each line in chains. The angle BA′X′ being measured, let it be found $= 60°$.

In this case, then, $\left.\begin{matrix} X = 4\,4 + 5 \\ Y = 10\,3 + 8 \end{matrix}\right\}$; that is, X = 16, and Y = 18. And,

$$\text{Sin. } T = \frac{1 - \text{Cos. } 60°}{36} = \frac{.5000}{36} = .01390;$$

from which is found $T = 0° 48' =$ modulus of curvature of the required curve. To find the position of the origin A, we have $\propto = 18 \times \text{Cot. } 30° - 16 = 18 \times 1.732 - 16 = 31.18 - 16 = +15.18$. Hence measure 15.18 chains from the selected point K, and *backward* as regards the axis KX, of X. The required point A will be then obtained; from which a curve being traced by means of the modulus of curvature 0° 48′ it will meet the given point A′, and come into the given tangent line A′X′. Or, vice versa, being traced from the given point A′ and from the given tangent line A′X′, it will *touch* the other given right line AX at the point A.

On the Arrangement of Cylindric Steam Boilers.

To the Editor of the Mechanics' Magazine:

Sir,—It is well known that a cylindric steam boiler, thirty inches in diameter, made of wrought iron plates one fourth of an inch thick, will sustain a pressure of more than one hundred pounds to the square inch. Of course, a cylinder of the same material, three inches in diameter, will sustain an equal pressure, although the iron of which it is made be but one fortieth of an inch thick; the thickness and strength of the iron being in the same proportion to the diameter as those of the thirty inch cylinder. A thirty inch boiler, eighteen feet long, and presenting one third part of its surface to the action of the fire, will produce about six horse power of steam: from which it may be inferred, that thirty-six cylinders, each being thirty inches long and three inches in diameter, and presenting two thirds of their surface to the action of fire, will also give a six horse power of steam; yet the weight of the thirty-six cylinders may be less than one sixtieth part of that of one large cylinder of the dimensions above specified. Several inventors have endeavored to avail themselves of this principle, but I know of no instance in which they have fairly succeeded in evading the difficulties attending the construction of a boiler consisting of many cylinders or pipes. In one instance, the pipes were so small that they soon became smoked; in another, they were arranged horizontally, consequently the steam could not readily escape; and in both, the pipes have been connected with cross-pipes by brazing, which rendered it difficult to keep them clean from the sediment which always accumulates in boilers; or to remove one without disturbing the arrangement of the rest. With this view of the subject, I have lately constructed a boiler on this principle, which appears likely to be useful for locomotives at least. It produces rather more than one horse power of steam, will sustain a pressure of three hundred pounds to an inch, weighs less than eighty pounds, and cost, (made of copper,) less than sixty dollars; yet so constructed, that the steam rises freely, and that either of the cylinders may be removed occasionally and replaced again in five minutes. The following is the specification of a boiler of the same construction, but of larger dimensions, and calculated for three horse power.

Twenty-four cylinders, made of sheet iron or copper, each being thirteen inches in length, and two and a half inches in diameter, are arranged vertically in two rows, parallel to each other, the cylinders in each row being half an inch apart, and the space between the two rows being eight inches. Each cylinder has a cast metal head at each end, secured by revits, or by brazing; and from the centre of which projects a tube an inch and a half long and one inch in diameter; each tube having ears projecting half an inch from two opposite sides, by which the tubes are secured by screws to the sides of four pipes, which are placed horizontally, parallel to each other, one at the top and another at the bottom of each row of cylinders. These tubes may otherwise be secured to the pipes, by having an iron strap bent over each tube, and a screw passing through each end of each strap into the side of the pipe. One side of each tube is nicely fitted to the side of the pipe to which it is attached; and the pipe and tube having each a corresponding orifice at the point of contact, an internal communication is effected between each cylinder and each pipe connected with each row. These parallel pipes, which are about one inch and a half in diameter, are also connected by cross-pipes at each end. The cross-pipes are cast with a cube at each end, or at the point of connection with the side-pipes; and instead of being open at the ends, have an opening on the side of each cube of a size to admit the end of the side-pipe; and a small iron rod, passing through the length of the side-pipe, and through the cube at each end, has a square head at one end, and a screw and nut at the other, by which the opposite cubes are drawn up to the ends of the pipe. Note—The length and size of the cylinders, the number of cylinders in a row, or the number of rows, may be varied as occasion may require.

The lower part of the cylinders are inclosed in a sheet iron furnace or stove, the height of which is equal to two thirds of that of the cylinders. The top of the stove being fitted to the several rows of cylinders, and the cylinders being filled two thirds full of water, the fire within the stove cannot approach them above the surface of the water. Between the two rows (or each two rows) of cylinders, at the bottom, is a grate, which rests on the bottom pipes; and at the top of the stove a horizontal door, by which the stove is supplied with fuel. Through one side of the stove are several small apertures for the induction of air; and attached to the opposite side is a funnel for the eduction of smoke. Steam-pipes, gauge-cocks, &c. may be attached to either of the pipes or cylinders, as may be most convenient.

I claim as original the arrangement of the cylinders, the method of attaching them to the pipes, and that of connecting the side-pipes with the cross-pipes.

Yours, respectfully,

Rufus Porter.

Billerica, Mass., Aug. 22, 1834.

[*From the Buffalo Whig.*]

State's Prison Monopoly.—Since the Mechanic's Convention, upon the subject of our States' Prison labor, some notice of the facts, it seems, is deemed advisable, by "the powers that be." Printed circulars have been despatched by the keeper of the Auburn Prison, of which a copy follows, below. Several have been received in this city, and they have probably gone to all parts of the State. The *motive* of this movement is left to be inferred. We more

than suspect it to be none of the best. The circular follows:

State Prison, Auburn, August, 1834.

Dear Sir: You are doubtless aware that latterly considerable excitement has existed in many parts of the State, relative to the employment of convicts in mechanical labor in the State Prisons. Feeling deeply the importance of the subject, as connected with our penitentiary institutions, and anxious to learn, as far as possible, the effect which that labor has upon the citizen mechanics' interests, as well as the effects of our prison system upon our discharged convicts, allow me to solicit your answers to the following interrogatories:

1st. Are you acquainted with any persons who have been discharged from either of the State Prisons? and if so, what are their names, places of residence, and what has been their conduct, habits, and character, since their discharge; also before conviction, if known?

2d. What branches of mechanical or other business do they prosecute, and to what extent?

3d. Are there any articles manufactured in the prisons of the State sold in your place? and if so, what kinds, and to what amount per annum?

4th. Does the mechanical business of the prisons injuriously affect the interests of the mechanics of your place? and if so, is it in the price or the quantity brought into your market, or any other cause?

The information above sought, is not merely important to the State, but to the United States, as well as to European nations, inasmuch as it involves the permanency of a system of prison discipline, which has been considered the best extant, and which, in truth, has constituted a new era in the punishment and reformation of criminals in this country, and is now receiving the attention of the governments of Europe.

I therefore trust the subject will be considered of sufficient importance to claim your early and serious attention.

I am, with great respect, your obedient servant,

Levi Lewis, Agent and Keeper.

To ——— ———, Buffalo, Erie Co.

The following answers to the third and fourth interrogatories, were prepared by one of our mechanics, to be forwarded to the keeper of the Prison:

Answer to third interrogatory.

There are a number of articles sold in Buffalo, which are manufactured in the prisons of this State, to wit: joiners' tools, saddlery of all kinds, both brass and plated, hames, saddle trees; copper ware, such as furniture for cook stoves, &c.; blacksmith work, of various kinds, such as iron doors, grates, bars, bolts, locks, chains, and hinges; wooden ware, such as tubs, pails, churns, &c.; ready made clothing, and it is believed boots and shoes; combs, and several other articles, some of which are purchased in New-York, at second hand, without the purchaser's being aware of the articles being manufactured in the prisons.

The amount of articles sold in this city the last year, from the best data that can be obtained, exceeds fifteen thousand dollars—one house disposing of about one fourth part of this amount.

Answer to the fourth interrogatory.

The several mechanical branches with which the prison wares have come into competition, are seriously injured, and it is said some establishments have been broken up in consequence, and that others must follow.

It is believed that the low price at which the prison wares are sold, is the principal cause of complaint, it being on some articles but little above the price of the raw material.

The manufacture of some articles which are carried on pretty extensively, have, in consequence of the introduction of the same kind of articles manufactured in the prisons, been entirely discontinued—an establishment for manufacturing Hames, employing from 10 to 12 workmen in 1830, has been entirely abandoned.

Copper furniture, for cooking stoves, manufactured in the prisons, was introduced into this city in 1833, and offered at prices considerably below what it cost to manufacture it. The consequence has been, that the prison ware is now extensively sold, and will, if this is persisted in, supersede all other. There are about 6 or 8 establishments now in Buffalo for the manufacture of copper, tin and sheet iron ware, employing about 50 workmen. The conductors of these establishments say it is impossible for them to compete with prison prices. The iron work for the new county prison erected in 1832 and 3, was wrought at the Auburn Prison, consisting of doors, grates, locks, &c. &c. amounting to more than two thousand dollars.

Whether any answers or queries one and two have been returned, we are not informed. We were recently acquainted with a very worthy mechanic, in this city, now deceased, who, previously to his residence here, was employed, in superintending the blacksmiths, in the Auburn prison. That trade he followed here; and from his knowledge of the discipline of the prison, and the signs by which the prisoners, (not being allowed to speak) call for what they need, he often detected those he had employed, as graduates of the Auburn Institution. He informed us that he detected, in this way, from fifteen to twenty of these, in the course of two years. Several of them proved most arrant knaves; and no one so demeaned himself as to retain his place longer than a few days. Some of them pilfered his small tools, and one broke open his shop at night and robbed it. A chair-maker, also at work here, plundered his employer and decamped, who was from the same school.

In short, reformation, we believe, can seldom be found to have resulted from our prison system.

SURVEY OF THE COAST OF THE UNITED STATES.

No. I.

It is, perhaps, known to some of our readerr, that a systematic survey of the Coast of the United States is at present going on. This undertaking, of so much importance to our mercantile marine and to our navy, has been recently recalled to our recollection by a conversation with one who has had an opportunity of examining its details, and of assisting at one of its most important operations, and from him we have the following statements:

"The director of the surveys is a gentleman well known to the scientific world, Mr. *F. R. Hassler*, and whose high attainments in astronomy, and the application of Mathematics to useful purposes, are most fully appreciated by those who are best qualified to judge of such acquirements. While still a young man and a stranger, he was chosen by Jefferson and Gallatin to perform this task, and the unanimous voice of the scientific men of both hemispheres has sanctioned their judgment.

It is not our present purpose to explain how it happened that the survey ordered by a law of 1807, was not commenced until 1816, nor why its progress was interrupted after the lapse of no more than a single summer. It is sufficient to say, that in spite of circumstances the most unfavorable, in the absence of any practical assistants, and defiance of an opposition which we shall in charity call ignorant, more was done by Hassler in that single campaign, than had ever been before effected in an equal space of time, in the surveys of either France or England. The operations of this summer have since served as a model to more than one European nation in works of a similar character.

The survey of 1816 was commenced in the vicinity of New York, and in its operations included the whole the neighbourhood of our city; and it is perhaps remarkable, that an examination of the figure of our coast in reference to a scientific operation, should have pointed to that very spot as most important, which the subsequent increase of its commerce has made the mart of the Western hemisphere.

Surveys of the character of which we speak, are necessarily performed by the united aids of astronomic observation and terrestrial measures. The first part of the process consists in forming upon the ground a network of great triangles, whose sides may be as large as the eye, when aided by the telescope, can scan. Every angle of these triangles must be measured, and the inclination of many of their sides to the Meridian exactly ascertained. The length of one side of a single triangle must be known, in order that the rest may be computed; and it will be obvious that upon the truth with which the accuracy of this base is determined, the certainty with which the position of distant points can be defined will wholly depend. The attention of Mr. Hassler himself has for the present summer been principally directed to the measurement of such a base. For this purpose he has selected a line upon the southern beach of Long Island, near Fire Island Inlet. Here, at the very level of the sea, he has found a base exceeding in length any ever before measured, and which requires neither correction nor reduction. To ensure the necessary accuracy in this important task, he has brought in aid methods of his own invention, superior to any hitherto furnished by scientific research. We have the pleasure to be able to say that it is some weeks since this important part of his work has been completed, and the data furnished for defining in itinerary measure the great outlines of the Coast and Harbors of New Jersey, New York and Connecticut; a large portion of the respective seaboards of which States had been previously enveloped in his triangles. Pending this operation, two parties, directed by civil engineers in the employ of the government, have been busy in forming a series of secondary triangles, embracing points not seen from the summits of those of the greater series; another under the command of a naval officer, and a fourth led by a civil Engineer, are now organizing, the one to take soundings, the other to fill up the topographical details.—The work in fact, which has hitherto been confined to preliminary scientific observations, of which only the initiated could see the value, is now in that state in which it will speedily develope its practical and useful bearings. Every new step in the scientific part of the survey will hereafter give increased space for the services of civil, military and naval engineers, and the extent to which they may be employed will depend upon the liberality of the appropriations.

Compared with similar works in Europe, the writer was struck with the economy and strict attention to husband the resources furnished by the government, manifested by Mr. Hassler; in spite of this he could not help observing that the usefulness of Mr. H. and the progress of the work were checked by the inadequacy of the allowances made for his personal expenses, and by the necessity of corresponding with Washington in relation to petty expenditures, of which none but the director of the work itself is competent to judge. Of the precise amount of these difficulties we are unable to judge, but as we know that Mr. Hassler sacrificed a competence in his exertions to organize the survey of the coast at the beginning, we are not without our fears that the same species of bureaucratic influence which caused the interruption of the work in 1816, and thus deprived the country of the benefit of much of its earlier expenditures, may again be efficient in delaying, if not in wholly frustrating the hopes now justly entertained of important national benefits. We witnessed on that occasion, under the pretence of economy, the fruits of several years of preparation entirely lost; instruments, unequalled in structure, destroyed by the unskilful hands to which they were entrusted for keeping, or worn out in operations for which they were never intended; and a library, both public and private, that money can never again collect, dispersed to the winds; not to mention the loss of property and life which the unexplored portions of our coast have witnessed in the interim. These enormous public and private losses were caused by an attempt to save less than a thousand dollars of salary and travelling expenses.

It has luckily happened that when the gross error which had been committed was made manifest, Mr. Hassler was still alive, and in the enjoyment of his faculties; otherwise, we should have been compelled to have had recourse to Europe for a substitute, or to have sent a person there to acquire the practice of observation, for our country as yet possesses none of those establishments, and carries on none of those great operations, in which alone the competent skill can be attained. The survey of the coast may, and probably will, in its progress, form persons qualified to continue it, but the physical and moral qualities, necessary to execute such a task successfully, are rare in all countries, and would probably in ours be directed to more lucrative pursuits. A thorough and complete mathematical education, an intimate and accurate knowledge of all the physical sciences, a love of them for their own sake, a constitution to bear unshaken, constant exposure to our climate, the activity and energy of the partisan, with the *coup d'œil* of the general, do not form a combination of usual occurrence, and yet the want of any one of these requisites, would probably unfit a person for conducting such a work. If to this we add that the person thus nobly endowed, by nature and education, must work for a bare subsistence, under every probability of a premature old age, we can see how rare must be those who will engage in such an occupation."

On the Comparative Value and Importance of Mathematical Science, and on the Pretensions of its Professors.

[From the London Mechanics' Magazine.]

Sir,—Whilst occupied in writing a reply to Kinclaven, I was led to indulge in some observations on the intellectual grade and practical value which ought to be assigned to mathematical acquirements, and on the overweening pretensions of some of the mathematicians; but these remarks became so much extended under my hand, that I have thought it best to give them to you under another form.

I am sir, yours respectfully,

Benj. Cheverton.

Men's minds appear to be differently constituted in regard to the investigation of things. Whilst the generality take a view of a subject merely as a particular case, and reason upon and examine it only as connected with its more immediate causes and consequences, the profound inquirer analyses it, to discover the law or principle which pervades it in common with many others; to trace and connect it with those of dissimilar aspect; to show that in the abstract they belong to one common truth, though in the concrete, or in their actual existence, produced by the modifying agencies of their peculiar circumstances, they present appearances which apparently have no relation to each other. Such are the minds who have for their high aim the extension of the principles of knowledge; but though peculiarly fitted for discovery, they are not the best qualified to bring science down to practical application, or even to make it literally accord with matter of fact. In disentangling the complications resulting from concomitant agencies, they are so intent on arriving at the most general truths, so systematically disregardful of the separate consideration of those agencies, and so much in the habit of keeping the analysis disencumbered of all ideas not comprised in the upward leading train, that when, by a course of synthetical reasoning, they would turn their discovered principles to account, and build up a system on their foundation, they too much exclude the operation of the subordinate laws which concur in influencing, and more immediately regulate, the ultimate result, and which give to things the form and appearance which they present. Their conclusions, though correctly drawn, are true only in part, and by assumption and limitation, true mentally, but not materially, or as found in actual existence.

But there is another class of minds of nearly the same stamp and mould as the former, who, though not taking the like grand and original views, are yet of a kindred spirit. The former act the part of pioneers, but these take to the circumstantials, and bring into subjection what the others merely pass by. They fill up that outline of a science or system which the former, in the discovery of its most general law, was content merely to trace; they bring the analysis to bear on all the relations implicated; weigh, balance, and proportion the conflicting agencies; and are thus enabled to perfect the subsequent synthesis in all its details, to take a complete view of the subject in all its parts, and a comprehensive one in all its bearings, and to bring forth to view the modified results, the exceptions and the anomalies, as illustrations of, and confirming attestations to, the fraudulent truths which at first sight they may appear to invalidate.

Both these classes of men are philosophers, the distinction between them having reference to a tendency to generalize, rather than to the usefulness of their labors, or the rank in which they ought to stand; but they *may not* be mathematicians, that depending on the circumstance whether the science of quantity is required in their investigations. These last, therefore, form a third class, whose object is less the extension and perfection of science or system, than the cultivation of the means thereof, so far as the relations of quantity are concerned.

The mathematicians—I mean mere mathematicians—are doubtless valuable members of the body scientific, but some among them, (the least generally informed,) are sadly inclined to over-estimate the honor of their station, and the comparative value and importance of their labors. In the great field of science, to say nothing of the greater field of knowledge, they occupy merely one of its sections, they facilitate and abridge the work of some, and co-operate in the work of others; but they are neither the pioneers nor the finishers of the operations going on around. Subsidiary and assistant to original investigation, the *science of quantity* is of important service, but if put forward and esteemed as the *science of things*, it is worse than useless, and many who might have made good philosophers, have been spoiled by the false glare reflected from their own doings being taken for the true light thrown on Nature's works. The lines and characters with which mathematical operations are conducted, and whose results, though only abstractions, are too often confounded and identified with realities, are not only the mere symbols of things, but the symbols merely of one or two qualities in things; and therefore, though the conclusions are true, rigorously true, as to the signs, they are false as to the things themselves, when regarded in their ultimate modified results, from the influence of those qualities or accidents which the mathematician does not or cannot symbolise—which he does not, because the complication arising from their reciprocal actions exceeds and defies his means—which he cannot, because in regard to some of them there is not sufficient analogy in the types to warrant the deductions they afford being transferred to the archetypes. Even as to those said qualities (extension and individuality) which form the subject matter of mathematics, the investigation is often limited, and therefore imperfect, from the impossibility of extending the analysis to all the ramifications which branch forth from it. The mathematician arrives at the truth, and nothing but the truth, but not at the whole truth—not even at the whole of the only kind of truth which symbols give. When, however, the case is so simple that the investigation comprehends all the possible relations belonging to those qualities, and the only result sought for in things is a knowledge of those relations, then it may be said, and only then, that the conclusions of the science are not only indubitable, but identical with realities—but what does not this limitation exclude?

The mathematician has a little, a very little, world of his own, in which every thing is in the utmost order, subject to known laws, involving definite and foreseen action, liable to no interference not calculated on and provided for, and the whole capable of coming within his own powers to regulate and govern according to assigned rules; for things which cannot be made amenable to his jurisdiction are ejected from his dominion. He therefore admits nothing of unknown power, or which may exert an influence which he cannot see, and introduce uncertainty and casualty within his precincts. Hence, also, many agencies, though well understood, are rejected by him, lest they should prove too numerous for his perfect cognisance, and lest more subordinate laws should obtain than he can see and understand their bearings; or else he accepts only the first modifications which they may produce, and then casts them out altogether, whereby he avoids the many puzzling anomalies and exceptions which would proceed from their mutual actions. Hence, also, he ejects, as they arise, whatever among the collateral effects may complicate and embarrass the more direct train of results. Thus he sees and comprehends every thing, the whole is within his grasp, demonstration attends him at every step, aberrations are impossible, contingencies are out of the question, all results are naked to his sight, and his prescience embraces all, because his knowledge is certain and perfect, and extends to all. But, on the other hand, this is a world of curtailment and exclusion, in which nature is deprived of her just proportions, and of many of her endowments—it is a world of meagre forms and distorted shapes; and thus feeble man, failing to stretch his powers to a comprehension of the full length and breadth and depth of things, makes the things themselves conform to the extent of his own puny faculties, and then, in all the self-sufficiency of pride, exclaims—behold! this is nature!*

When the mathematician comes forth from this tiny world of his into the world of realities, he is bewildered with the multiplicity of its objects, he is confounded with the immensity of their relations and mutual aspects. He looks for certainty, and can scarcely find probability. Accustomed to demonstrate, he is unqualified to estimate; and in the habit of concentrating his attention to a single, unbroken, unerring, and necessary chain of inferences, and having the power permanently to record its every link, and fix the otherwise fleeting convictions of certainty, he is unfitted to retain a steady and expansive view of several collateral lines of action, to balance conflicting influences, to adjust their proportions, and from the whole to educe the nearest to the true conclusion which only actual results can make to appear. Emerging from his world of abstract ideas, if indeed it be so much as this, he finds the real world, and the things thereof, to be a perfect enigma. He can follow, it may be, in the track of those who have unravelled it a little; but he has no powers of himself to unravel it further. Desirous, however, of doing something, though it may be only after his own method, suiting, therefore, the subject to his means and habits, he seizes a few of the most manageable facts; and if they are not to him already isolated, by his ignorance of the ties by which

* The arrogance of some of the naturalists is astonishing. They sit in judgment on nature, criticise her works, and talk of the attempts in which she has failed to perfect her plan. After all that has been said of the inductive philosophy, and of our being the humble disciples of nature, the race of the king of Castile is not yet extinct.

they with all things are bound together, he takes care to sever their connection with disturbing causes, and to rid himself of all embarrassing extraneous influences. If his facts are not sufficiently fruitful of principles, he can eke out his case with a few postulates; and if they are untractable, he can frame an hypothesis which shall present as nearly as possible the same appearances. He then proceeds in the most lucid and masterly manner, to build his system scientifically. All its parts are in harmony, all its conclusions are demonstrable. His penchant for clearness, order, and certainty, is gratified, and he fondly flatters himself that the results which he brings forth are conformable to nature. He does not consider that the harmony and clearness which he so much admires, gives every reason to suspect that he is entirely wrong; for the one may arise from every element of discord being rejected, and the other from those narrow and contracted views, which, by reason of our limited faculties, we are only able to take when absolute certainty is to be the result. Professor Sedgwick, whose scientific pursuits tend to enlarge and expand the mind, has a just observation in a recent publication of his, which, though having an immediate application to one particular subject, is by no means foreign to the tenor of the present remarks: "To suppose that we can reason up to a First Cause in moral questions—that we can reach some simple principle, whence we can descend with logical precision to all the complicated duties of a social being, is to misapprehend the nature of our faculties, and utterly mistake the relation we bear both to God and man. Such a system may delight by its clearness, and flatter our pride, because it appears to bring all our duties within our narrow grasp; *but it is clear only because it is shallow, while a better system may seem darker only because it is more profound.*" Thus, the mere mathematician is disqualified by his prejudices, his habits, and the tutored bias of his mind, to look at the world of nature as it is. For, however paradoxical it may appear, views may be taken of it, which, though less exact than his, may be more complete, and though less certain, may be more probable. He is really better qualified to comprehend an entire system of worlds, so far as it may be explored by others possessed of a superior order of intellectual gifts—for the only point of view in which he can regard them, is merely as individual entities, whose dependence on each other is governed by one universal law of influence, and whose aberrations and disturbances, therefore, are not in the main beyond his scope. But in respect to mundane affairs, he has not the *coup d'œil*, the tact, or the *intuitive* perception, as it appears to be—though it is not that, nor is it innate, except so far as natural aptitude is concerned; but it is a deliberate process, and an acquirement derived from long habituated reaches of comprehensive thought, and faculties well disciplined by suitable practice—he has not, I say, that fine *eventual* perception, as it may with more propriety be called, which includes the whole implication of things, their mutual actions, and their final issue, whereby others are enabled to combine vastly, if not minutely, to establish something like order and gradation in the gross, if not in the detail; to foresee with a degree of certainty, though it may be with some obscurity; and to catch the shadows, if not the lineaments, of unknown forms. Such powers in any perfection are not often combined with high mathematical attributes, for they are of diverse tendency; but when they are united and directed with a combined effort to connect systematically the wide survey with first principles, they mark not only the true but the pre-eminent philosopher. Such was Newton. In his profound inquiries into the phenomena of nature, requiring new methods of mathematical investigation, his merits in that respect are, no doubt, eminently conspicuous; but yet, as the founder of a system, it is not so much the mathematician as the philosopher which shines forth in him. What a contrast there is between him and Descartes. With what sagacity he brought to light slight and hidden analogies, and what wisdom is displayed even in his scholia and his queries. His very conjectures partake of the nature of science. How extraordinary was that concerning the diamond; and who can say that his idea concerning the cause of gravitation may not yet be verified, or at least rendered highly probable?

The tendency of mathematical studies to unfit the mathematician for the general study of nature, and for investigation into the complex structure of human affairs, has now been stated—in very general terms confessedly, but that of course was unavoidable, unless there was an intention to write a complete dissertation on the subject. There is, however, another cause which lies at the root of that unfitness, peculiar to the mere mathematician. It consists in the very structure of the mind, that is, in the inequality of his faculties. "In almost all the instances of mental superiority," says Dr. Chalmers, "it will be found that it is a superiority above the average level of the species in but one thing—or that arises from the predominance of one faculty over all the rest." We may extend this remark, and say that nature is seldom perfect in opposite directions in the same individual, and that if her bounty flows strongly in any particular channel, it is generally at the *expense* of the diverging streams. This is so remarkably the case in regard to the mathematician, that deficiency in judgment is proverbially ascribed to him. Now judgment, in a popular sense, is a collective word for the several faculties which concern not the abstract ideas, but the realities of things in their actual forms. Thus both the congenital deficiency and the predisposition mutually concur with the habit which they produce to make the mere mathematician what he is—utterly unqualified to investigate any thing out of his own province. But properly to establish the point of his *natural* inaptitude would lead me too far into metaphysical, and, as some would think, into phrenological disquisitions.

Nature may, in some instances, bestow her gifts with as balanced as a bounteous hand; but then the study of mathematics, in all its fullness, is so engrossing, demanding so large a portion of time, as to preclude the generality of its students from the acquirement of that extensive knowledge of things and their relations which is necessary to furnish the philosophic mind. "Mathematics," says Duncan in his Logic, "is an engaging study; and men who apply themselves that way so wholly plunge into it, that they are, for the most part, but little acquainted with other branches of knowledge. Even such as are alleged to have excelled in their own profession, and to have discovered themselves perfect masters of the art of reasoning, have not always been happy in treating upon other subjects; but rather fallen short, not only of what might naturally have been expected from them, but of many writers much less exercised in the rules of argumentation. Because, however perfect they may be in the art of reasoning, yet wanting here those intermediate ideas, which are necessary to furnish out a due train of propositions, all their skill and ability fails them, for a bare knowledge of the rules are not sufficient—we must further have materials whereunto to apply them."

Barbeyrac, in the preface to his translation of Grotius, "De Jure Belli et Pacis," informs us, says Kirwan, that a mathematician undertook to refute it; but of this refutation he says, "on n'a jamais rien vu de plus pitoyable, et on seroit surpris qu'un mathematicien put si mal raisonner, si l'on n'avoit d'autres exemples bien plus illustres, qui montrent clairment que l'etude des mathematiques, ne rend pas toujours l'esprit plus juste en matiere des choses qui sont hors de la sphere de ces sciences." And Condillac, according to the same author, says, "nous avons quatre metaphysiciens celebres, Descartes, Malbranche, Leibnitz, et Locke; le dernier et le seul qui ne fut pas geometre, et de combien n'est il pas superieur aux trois autres?"

It cannot, however, be denied that a few mathematicians have been philosophers; or, rather, that some philosophers have also been mathematicians. Men possessed of an equilibrium of the faculties, and endowed with sufficient energy to sustain and invigorate them all—men of panoramic as well as of microscopic vision—men who extend their views beyond the mere rules, the elegant abridgments, and the ingenious artifices of the science, and who, valuing them only as means to a nobler end, merge the powers of the analyst in subservience to the grand objects of philosophy. It is from men like these that the mere mathematician has received a reflected lustre, and a consideration which is not his due. But the far greater number of philosophers, and the most useful ones too, have *not* been mathematicians. To instance only in our own time, and without adverting to living characters—having regard only to one branch of physical science, that which concerns the intimate nature and constitution of bodies, and passing by the various other departments of philosophy, such as morals, economics, physiology, geology, and the like, we may mention the names of Priestley, Franklin, Davy, and Wollaston.* It is probable that most of our eminent philosophers may have had some slight general knowledge of the mathematics, such as even our practical men commonly possess, and such as becomes a liberal education. They may have run through Euclid just as they may have run through Homer; nay, they may have done more than this, without being mathematicians any more than they were Grecians. This, in particular, may be said of the last-mentioned philosopher, though I believe so much even cannot be affirmed of the others. Even among our engineers,

* We have Mr. Babbage's authority in regard to Dr. Wollaston.

whose pursuits would seem to make mathematical acquirements more requisite, the most eminent, such as Smeaton, Watt, Rennie, and Telford, have not been distinguished by any beyond the merest common-place. Many of their compeers have advanced much farther in these routine attainments, and yet wanted that tact, that fine superior sense, which is far more indispensable to the man who has to take and deal with things as they are, enveloped in all their circumstances, and subject to all their qualities and contingencies. Sir John Herschell observes, that "almost all the great combinations of modern mechanism, and many of its refinements, are *creations of pure intellect*, grounding its exertions upon a very *moderate number of elementary propositions* in theoretical mechanics and geometry." In what have the pupils of the *Ecole Polytechnique*, who are all mathematicians, excelled our own engineers? Let the fate of the first suspension-bridge at Paris tell. We have yet to avail ourselves of the eminent services which the high mathematical attainments of the pupils of our own school of naval architecture were to render to the science—if science yet it be. What has been the result? Does even the Surveyor of the Navy put forward any scientific pretensions? Has he not been selected out of another profession? Has the professor of the school himself succeeded better, or so well, as the unpretending shipwright who built the Pearl? Let it not, however, be understood, that the school has not sent forth able and useful men, or that they have received rewards equivalent to their merits. But it is maintained that in this, as in many other cases, the tentative method has been, and perhaps ever will be, of more value than science, and that those qualities of the mind for which I have contended, and which science cannot give, are superior to and more indispensable than mathematical attainments; and this may be said without condemning the application of analysis, as far as may be, to the successful results which experiments on a large scale may have produced. In such analysis, indeed, if sagaciously and not too rigidly and scientifically conducted, those superior qualities will appear, just as they do appear, in the rough empirical sort of analysis which the successful though unpretending shipwright calls to his aid. Those among the students who are in possession of these natural gifts, will break through the prejudices and pedantry which a too engrossing attention to mere science creates, and keeping it in its proper place will make it secondary or subservient to a comprehensive view of their peculiar and very complicated subject, satisfied, if they cannot mark and estimate all the concomitant influences, in a manner so precise and determinate as they could wish, that they at least form their conceptions and draw their conclusions in conformity to the *truth* of things.*

(*To be continued.*)

* Let this be exemplified by an able article which appeared within these few months in the "United Service Journal," written, I believe, by a pupil of the school above mentioned.

MITCHELL'S improved mode of setting grates, or rather constructing the lower part of chimnies in which grates are used, may be seen at 216 Fulton st. a few doors above Greenwich st.

The object of the inventor is to do away with the great objection to the use of Coal, the floating dust from it, which settles all round the apartment and upon all things and persons within it. This we think is effectually attained; a draught is created which completely carries off this dust; so that stir the fire as you may, and rake out the ashes however violently, there come forth no floating particles into the room.

Any chimney may be altered at slight expense, in comformity with this plan. We recommend it to the notice of all neat housewives.

FROM JAMAICA.—The schooner Joseph Y. Tomkins, Taylor, arrived at this port yesterday from Port Royal. Capt. T. has politely favored us with a file of the Jamaica Herald, to the 30th September, from which we glean the following items.

On the night of the 7th September, several severe shocks of an earthquake were experienced at Port Royal. The Herald says:—

"There were, indeed, *four* distinct shocks within the space of about two minutes—but the first was truly awful and alarming. Many persons were awakened by it and found themselves rocking in their beds, while the roofs, shingling of the houses, and furniture were rattling—the glass on the sideboards ringing, and lamps swinging to and fro. It was both preceded and followed by a sudden gust of wind, accompanied by rain and a peculiar noise, resembling the rumbling of heavy carriages at a distance. The indulations were from east to west, and the duration of the first shock, from 10 to 15 seconds—the other three shocks followed in quick succession, but were gradually fainter to the last. It is but too probable that this was but a slight effect of a more dreadful and disastrous convulsion that may have occnred at the same moment on the continent; and we shall ook with much anxiety for intelligence from thence."

The paper of the 11th says:

The Earthquake appears from our country letters to have been severely felt from one end of the Island to the other, and to have caused great consternation. We have not heard that it occasioned any serious damage. Houses, however, have been more or less injured in almost every parish.

It is stated in the paper of the 9:h that a serious mutiny occured on board the schr. J. Y. Tomkins, which sailed from Port Royal on the 9th September, during which an attempt was made on the life of the master. The captain of a British vessel of war observing the schooner's flag hoisted *Union down*, sent a boat to her and secured the mutineers. They were subsequently taken before the magistrates of Port Royal, for examination, the result of which was that the full particulars of the case should be submitted to the Attorney-General, the men, in the meantime, remaining, in prison. Col. Harrison, the United States Consul, being anxions to enable the vessel to proceed on her voyage, was desirous of having the offenders delivered over to him, in irons, that he might send them home for trial—but he was informed, that, as they had already been given into the custody of the authorities there, nothing could be decided upon until the Attorney General's opinion was ascertained.

The papers are full of complaints of the conduct of the "apprentices," or negroes, since their emancipation, but make no mention of distarbances of moment. Apprehensions are entertained that owing to their refusing to work more than eight hours a day, the raising of sugar will cease to be profitable to the proprietors. Neither offers of money nor of extra allowances by exchange of time, nor reasonings as to the mischief which must result in the estates, will induce the negroes to work at night.

The accounts from Demarara also represent that Island to be in every distracted state. Martial Law had peen pooclaimed at St. Kitts, and it was supposed the other colonies would require a resort to it. It is stated that the negroes had set all authority at defiance.—[Baltimore American.]

LATER FROM EUROPE.—By the *Britannia*, Captain *Sketchley*, from Liverpool, papers to the 2d ult. are received.

Accounts from *Spain* appear to be in the usual state of uncertainty, neither party making any decisive movement.

In *Portugal* the Cortez had met, and Don Pedro had addressed them in a long speech, for which we have not room today. One of the questions propounded for their consideration is, whether the Regency now exercised by him should be continued?

According to the letters from *Constantinople* war had been renewed between the Porte and the Viceroy of Egypt. Meanwhile Ibrahim—of whose death a false rumor had reached and rejoiced the Sultan—appears to have subdued Syria.

CONSTANTINOPLE, AUGUST 5.—A Tartar, arrived a few days ago from Sivas, brought despatches from Reschid Mehemet Pasha, announcing the death of Ibrahim Pasha. According to the statement, this Commander-in-Chief of the Egyptian army, after being defeated by the insurgents from Naplooz, was obliged to take refuge with a detachment consisting of a few hundred men in a small fortress, which, after a desperate resistance, was taken by storm.—Ibrahim was taken alive by the enemy, and put to death in the most barbarous manner. After cutting off his hands and feet, the arabs tied him over the mouth of a loaded cannon, and by firing it put a termination to his sufferings and existence. This information produced the greatest satisfaction to the Sultan, and excited at Court, as well as at the Porte, a joy which they could not be controlled. Numerous addresses forwarded to Reschid from Syria, and signed by the most influential men in the country were at the same time transmitted to the Porte.

After an enumeration of the vexations to which Ibrahim has subjected them, they implore the assistance of the Sultan's troops, declaring it their determination to rise in mass against their oppressors, as soon as the providential interference they solicit shall arrive.

Another letter derected from Syria confirming the death of Ibrahim was sent three days ago to the Palace. This concurrence of testimony left no doubt in the Sultan's mind that the information was correct, and induced him to issue the most pressing orders for the departure of the regiment appointed to the reinforcement of the army under the command of Redschid Pasha. Yestereay morning a regiment of the Imperial Guard was embarked for Kara Missal. It is to proceed thence to Iconia where the troops marched from Constantinople, and to establish their head-quarters.

The following circular, addressed by Boghoz Bey to the different Consuls at Alexandria, and of which a copy arrived in town yesterday, proves that the insurrection in Syria has been quelled, and that the Sultan, on reckoning on the dreaded Ibrahim's death, has been reckoning without his host:

"Sir—I hasten to forward you the translation of a letter from His Highness Ibrahim Pasha, dated Jesser, the 17th, 1250, (June the 26) the original of which has been sent to Jaffa, and the copy of which has arrived to-day to His Highness, the Viceroy's representative, by a dromedary courier.

"The sheiks and inhabitants of the mountains of Naplooz, Jerusalem, and Yebel Kalil, have presented themselves to solicit pardon. The favor they asked has been granted to them, and their act of submission has been accepted as for the past. Every one of them returned afterwards to his home.

"As there is no reason to doubt that this success has been the result of the superiority of arms of His Highness the Commander-in-Chief, as well as of the kindness and paternal solicitude of His Highness Mehemet Ali, it behoves me to communicate this information to the Consuls of the different European powers in Egypt. "BOGHOZ YOUSSOUF."

"*Alexandria, July* 2."

The latest letters from Syria, arrived in town, are in date of July the 1st. Ibrahim Pasha was then at Jerusalem. The insurrection in Syria was completely quelled. Mehomet Ali was at Jaffa, where his son was now expected.

CONSTANTINOPLE, Aug. 4.—The important facts I have had in my late communications occasion to record were of a nature to lead you to anticipate a fresh rupture between the Sultan and Mehemet Ali; to-day I have to inform you that this event has taken place. With one accord both parties have "cried havoc, and let slip the dogs of war." At the head of all his disposable troops, the Governor of Egypt, under pretence of quelling the insurrection in Syria, and rescuing his son from the critical position to which, as he gave it out, the victorious insurgents had reduced him, has landed in that country and completed his preparations for a new campaign. Upon receiving information of the explosion of events it had for some time been intent in preparing, the Porte greedily seizes this opportunity, which the exaggerated reports transmitted has induced it to consider as highly favourable to the furtherance of its designs, to vindicate its injured rights, and hurries on as many regiments of the guard and of the line as the safety of Constantinople allows her to spare, to reinforce the army Redschid Mehemet Pasha has collected at Sivas. The fleet is to sail in two days hence. A circular, it is said, has been forwarded by the Reis Effendi to the different Embassies at Constantinople, acquainting them with the resolution

the Porte has adopted of taking coercive measures against Mehemet Ali, and with the motives on which this determination is founded. The principal of these are,—the refusal on his part to pay, according to the stipulations agreed upon at Kioutayah, the tribute; to evacuate the districts of Oursa and Rana, which he has taken possession of without the Sultan's consent; and thirdly, the imperious obligation under which the Sultan is placed, as the father of his people, to lend a favorable ear to the incessant entreaties of the population of Syria, which reduced, through Ibrahim's tyrannical conduct, to the utmost despair and misery, implores the intervening protection of their legitimate sovereign. A few weeks yet, and hostilities will have commenced.

STILL LATER FROM EUROPE.—The Pacific, from Liverpool, the packet of the 8th, is below. We are indebted to "the mate of the Pacific," and he will be good enough to accept our thanks therefor, for Liverpool, London and Dublin papers of the 6th.—We can to-day give but very short extracts, which is however the less material as there is nothing of much interest.

The accounts from Spain are still of a perfectly undecided character. Don Carlos seems to keep his antagonist busy at the game of hide and seek. The following is the latest news from the Spanish frontier:

BAYONNE, SEPT. 2.—"We are assured that the two battalions of Guipuzscoa are dissolved, and that the men composing them have returned to their homes in the neighborhood of St. Sebastian.

"Don Carlos passed Araiz on the 30th ult."

Our Bayonne letter, dated the 30th ult., mentions that reports were prevalent in that town that the Carlists had been successful in various encounters with the troops of the Queen; but adds, however, that little or no reliance is to be placed in them. Fifty mounted Carlist lancers, and a number of wounded and sick, driven from Elisondo by El Pastor, had taken refuge on the French Territory.

His consort, whom he left behind in England, is dead.

PORTSMOUTH, SEPT. 4th, 1834.

Death of Don Carlos's Wife.—At noon to-day this illustrious Princess, the Donna FRANCISCA TERESA OF SPAIN, departed this life, in the 36th year of her age. She died of internal mortification. She will be buried, *pro tem.*, in the churchyard of Alverstoke, for subsequent removal to Valencia.

Conspiracies in the Spanish capital are still spoken of. Atttempts at insurrection had been made in various parts of Spain, but thus far appear to have been immediately suppressed.

A Liverpool paper of the 5th has the following from Portugal:

FALMOUTH, AUG. 31.—This afternoon his Majesty's brig Royalist, arrived here from Oporto, whence she sailed on Wednesday last. Information had been received there from Lisbon, announcing the election of Don Pedro as Regent, by the Cortes, with scarcely a dissentient voice. The choice of the Emperor had given much satisfaction at Oporto; it was expected that the Queen's marriage would be the next subject for discussion.

From France the only intelligence of any interest is that Marshal Gerard, the President of the Council, is seriously indisposed.

VARIETIES.

Death by the bursting of a Soda Water Bottle.—Judge JEBB, of Rostrevor, Ireland, died suddenly—and, as was at first supposed, of Cholera. Late accounts, however, attribute his death to the explosion of a soda water bottle, which he was shaking preparatory to opening. A fragment of the glass entered his thumb, and some efforts were made to extract it. This brought on a serious nervous excitement, to which the judge was habitually subject, and in the course of a few hours became so violent as to terminate his existence. It is not decidedly stated whether the attack partook more of tetanus or paralysis, or whether both series of symptoms were observable in the short progress of his fatal malady.

The Ex-King of Portugal.—Don Miguel arrrived at Milan on the 20th of August. He took up his abode at the hotel called Albergo Reale. In the evening he went to the theatre at La Scala, where he became an object of great and not very civil curiosity. The Viceroy has exchanged visits with him, but without any formality. The *Milan Gazette* of the 22d, in its list of arrivals and departures, speaks thus about Don Miguel:—"Arrivals—Il Signore D. Miguel da Braganza, from Genoa," &c.

The Queen Regent of Spain, and her Chamberlain, Munoz.—The present position of the Spanish court proves the profound observation of Napoleon, "*Que les femmes font des mauvaises politiques, se laissant toujours gouverner par le cœur.*" Heedless of every consequence, the Regent has not only publicly appeared in the Prado with Munoz by her side, but she has openly insulted the nobility in the person of the Duke St. Ildefonso, who on that occasion actually rode behind them *en chasseur*. The nation have beheld with indignation her treasures lavished in the purchase of houses and equipages for the happy favorite, who, to crown the whole, has been appointed chamberlain to the queen, an office which gives him the *entrée* to her chamber at all hours. A queen-mother without a cortejo would be quite a novelty in the Spanish annals. The mother of Philip IV. had her Valenzuela, the mother of Ferdinand her Godoy. Christina, the mother of Isabella, is not singular, therefore, in this respect.—[Monthly Mag. for Sept.]

Admiral de Rigny, Minister for Foreign Affairs, is said to be on the point of marriage with an American lady possessed of an income of 16,000*l.* a year, but who has two daughters by her former husband, each of whom, on attaining her majority, will take one fourth of this fortune.—[Paris Journal.]

The speculating ladies, excluded from the upper galleries of the Exchange by the President of the Tribunal of Commerce, have appointed a committee to direct their affairs; and an office has been hired opposite the Exchange, in Rue Notre Dame des Victoires, where the ladies will assemble during 'Change hours.—[Paris paper.]

The British revenue cutter Cameleon, lying too in the channel off Dover, was run down in open day light by the British frigate Castor. The cutter foundered immediately, and with all her officers and crew except four, who caught by the bobstays of the frigate, or were picked up by her boats.

The Pope has just promulgated throughout his states regulations concerning public executioners, their assistants, and their wives. They prescribe the cut of their clothes, the hours at which they are allowed to appear in public, and the places and churches they are permitted to frequent. Among other characteristic marks of this fraternity, they are required to carry a black stick, wherewith to point out the objects they are desirous of purchasing. —[French paper.]

The ancient and formidable fortress of Montgatz, in Hungary, was destroyed by fire on the night of the 27th July. The flames burst out about eleven o'clock, at the northern angle, and spread with such rapidity, that in a very few hours every part which was combustible was consumed. All assistance from without was impossible, from the situation of the castle, which was seated on a steep isolated rock. A great number of valuable works of art have perished; but fortunately no lives were lost.

Pinder.—Splendor was the passion of his soul: splendor of achievement, splendor of renown, splendor of station and outward circumstances. His very pride seems to to have suggested to him that nothing but splendor was worthy of his muse. His genius, to use a figure of his own, was the eagle of Jove, that would not be severed from the sceptre and the god. These aristocratic predilections, this enthusiastic attachment to munificent monarchs and chiefs of ancient fame, were in perfect unison with the whole tenor of his destiny; born, as he was, in the midst of the Pythian festival, living surrounded by shows of solemn pomp, and dying, as he had lived, in the full blaze of public ceremony, in the center of a theatre, and while rapt in those emotions of rejoicing sympathy, wich such scenes were sure to awaken in his bosom.—[From an Article on Literature, by Sir D. K. Sandford, in "Popular Encyclopædia."]

The Manati, or sea-cow, from ten to sixteen feet in length, has a head something like a bull-dog, nostrils semi-lunar, and eyes very small and near the snout; it is without ears in outward appearance, but has two small spiracula situated at the back part of the head; mouth large, with sofa and protracted lips, fitted for laying hold of the grass or herbage growing near the shore; neck short, and body covered with a rough blackish skin, thinly sprinkled with bristly hair; the belly and sides near the tail, white. From the shoulders protrude two pectoral fins (the only fins on the animal) resembling arms, with which it supports itself in the water, and which enables the female to give suck to its young, who receives it from several porous openings or mammæ in the breast of the animal. The tail is formed like that of the whale. It is an amphibious animal, never leaving the water, but feeding upon the aquatic plants and shrubs growing on the borders of the rivers and lakes, sometimes elevating its head to munch at the bushes which overhang them. Its flesh is white and delicate, resembling veal, in appearance and taste, and particularly when dressed, and it will keep good several weeks, even in the hot climate of which it is a native, when other meat will not resist putrefaction for as many days.—[Martin's West Indies.]

The Penguin.—At a recent meeting of the Zoological Society, Mr. G. Bennett read a note on the habits of the *King Penguin, Aptenodytes Patachonica*, Gmel., as observed by him on various occasions when in high southern latitudes. He described particularly a colony of these birds, which covers an extent of thirty or forty acres, at the north end of Macquarrie Island, in the South Pacific Ocean. The number of penguins collected together in this spot is immense, but it would be almost impossible to guess at it with any near approach to truth, as during the whole of the day and night, 30,000 or 40,000 of them are continually landing, and an equal number going to sea. They are arranged, when on shore, in as compact manner, and in as regular ranks as an army of soldiers; and are classed with the greatest order, the young birds being in one situation, the moulting birds in another, the sitting hens in a third, the clean birds in a fourth, &c.; and so strictly do birds in similar condition congregate, that should a bird that is moulting intrude itself among those which are clean, it is immediately ejected from among them. The females hatch the eggs by keeping them close between their thighs; and if approached during the time of incubation, move away, carrying the eggs with them. At this time the male birds go to sea, and bring home food for it; it soon becomes so fat as scarcely to be able to walk, the old birds getting very thin. They sit quite upright in their roosting places, and walk in the erect position until they arrive at the beach, when they throw themselves on their breasts, in order to encounter the very heavy sea met with at their landing place. Although the appearance of the penguins generally indicates the neighborhood, Mr. G. Bennett cited several instances of their occurrence at a considerable distance from any known land.

Compression.—No one who has not attempted the task can fully appreciate the difficulty of compressing within prescribed limits the remarks suggested by a subject affording superabundant materials of interest and excitement. When some one asked Sir Walter Scott why he did not write his life of Napoleon in three volumes, instead of nine, his answer was, "I had not *time*." A reply which will appear by no means paradoxical to any who have had the least literary experience; as it is a truism among all such, that it is much easier to amplify than to condense; to be verbose on the most barren, than concise on the most fertile theme.—[Literary Gazette.]

Days of the Creation.—Supposing that there are inhabitants at the poles of the earth, how must they understand the days of the creation? To them a day of light is six months long, and a night of darkness six months long, and the day made up of night and day covers a year, and it is a day, too, limited by morning and evening. Such persons, therefore, must suppose, upon the literal understanding of the days of the creation, that at least six years were employed upon the work. So also at the polar circles, there is every year one day that is one continued vision of the sun for 24 hours, and one continued night of 24 hours; while everywhere within the polar circles the day and the nights respectively are for six months more than 24 hours, extending even as we advance towards the poles through the time of many of our days and nights. How are the inhabitants of these regions to understand the week of the creation, if limited to the literal interpretation of the inspired record?—[Professor Silliman.]

The following picture of matrimonial felicity of from the "King's Own."

"Mr. and Mrs. Reinscourt were joined, but they were not one. Like many others in this world is error, the marriage might be typified by a vial, of which one half has been filled with oil, and the other with water, having a cork in its mouth, which confined them, and forced them to remain in contact, although they refused to unite."

NEW-YORK AMERICAN.

OCTOBER 4—10, 1834.

LITERARY NOTICES.

THE LITERARY AND THEOLOGICAL REVIEW, Nos. I, II and III; conducted by LEONARD WOODS, JR.; N. York, D. APPLETON & Co.—This well printed and ably conducted "Review" had reached its third number before it was our fortune either to see or hear of it. We shall not, judging from what has appeared, be willing that its future progress should be as unmarked by us as its commencement.

It is a quarterly publication, to which the name of "Review" is affixed, rather, it would seem, in compliance with some notion of the popularity or general acceptation of such a designation, than because it is, or is intended to be, literally a critical Review. It is rather a collection of essays periodically issued on topics of interest—chiefly religious—but not by any means excluding those purely literary.

One established rule connected with this work is, that each article shall be given under the name of the writer. Thus the positive evils—and, we must say, the, in some cases, positive benefits—of anonymous writings are avoided. How it will work remains to be seen.

The Editor writes well—appears to be much conversant with modern languages, and particularly with the rich mines of German theology and literature. His correspondents, lay and clerical, seem to enter zealously upon their portions of the labor and research—greater far than is imagined by those who read currently and rapidly what it requires months adequately to prepare—requisite for the success of such a periodical; and we cannot but believe that the cause of religion and of good letters will derive important aid from it. From No. II, we make an extract from a paper by the Rev. *Mr, Gallaudet*, on the assistance which the language of signs may afford to missionaries among foreign tribes or peoples, while the language of each is unknown. We were much struck with the results stated by this ingenious and indefatigable philanthropist.

It is a curious fact, taken in connexion with what has just been stated, to show the power of *natural sign-language*, that the late Principal of the American Asylum for the deaf and dumb, while engaged in their instruction, was able to convey to an intelligent pupil whom he had taught for some time, and who had become very familiar with the expressions of his countenance, *historical facts*, without spelling *any words on his fingers, or using his arms at all in making gestures*. He would take, at the suggestion of a by-stander, any event in history, which could be portrayed on canvass, so as to make a graphical picture of it,—and which the pupil had read, perhaps some two or three years previous,—but selected at random, and without the most remote allusion to it, so that the pupil could even conjecture what it might be,—and by the mere expressions of his countenance, accompanied with a few motions of the head, and attitudes of the body, so distinctly convey the facts, that the pupil would immediately write them down, in his own language, on his slate. As an illustration of this, the request was made, one day, by an eminent painter of our country, that *the historical fact of the sentencing of his sons to death by the elder Brutus*, might be communicated. This was attempted in the mode that has been mentioned, and with entire success. The pupil had, indeed, read the account, it may be, some two or three years previous, but no allusion whatever was made to it, by any other communication than that of certain expressions of the countenance, motions of the head, and attitudes of the body.

Keeping these things in mind, let us proceed to the examination of our subject. Let us suppose a missionary to be landed on one of the islands af the Pacific Ocean, for the purpose of conveying to the minds of its inhabitants the interesting truths of the Gospel. They are entirely ignorant of the English language, and the missionary is supposed to be as ignorant of theirs. It is in vain for him to begin with putting a grammar or dictionary of his tongue into their hands, and they cannot furnish him with one of theirs. Words either of his or their language must first be learned, before they can advance a single step in their intercourse with each other. Under these circumstances the missionary's first attempt will naturally be, to learn the language of the island. How is he to do this? He points to the most common objects, and inquires their names; thus he may easily learn the names of every thing which immediately addresses itself to some one of the senses.—In all this he learns nothing by the *ear*, excepting indeed the names of the mere sounds of animals, or of nature, or of music: besides these, all his knowledge of this part of the vocabulary of the island is obtained through the medium of the *eye*. True, the name or ordinary sign for these various objects is an oral one; but this is quite a different thing from the import of this sign, which might as well have been expressed by an appropriate gesture, or by the manual alphabet of the deaf and dumb, or by written characters.

But let us advance a step farther. These objects which are addressed to the senses, are not always accessible. The missionary may have forgotten the name of an animal, a tree, or a utensil, and may wish to have it repeated. The object must be found, before its name can be revived. But were the missionary familiar with the language of signs, and a little practice would make the native equally so, without stirring from the shade of the tree under which they were conversing, they can, in imagination, gather round them all the objects of the visible world, and fix their names in the memory. These signs, too, being actual *portraits* of the objects, serve more easily to recall them when the arbitrary sound which denotes them may have escaped from the recollection.

But this is comparatively the least important part of the labor of the missionary. He now wishes to learn the terms which denote the most common actions and affections of the body; for instance, to eat, to drink, to walk, to run, to ride, to sleep. Must he wait till he and the native see some person engaged in these actions; or shall he make a sign descriptive of them? The sign would be easily understood, and the name settled. In this respect he gains no new knowledge by the *ear;* whatever he learns is acquired by the *eye*. He and his companion are as it were DEAF AND DUMB. He next is anxious to learn the words which denote some of the familiar occupations of life, perhaps to boil, to bake, to cut, to kindle a fire, to build a hut. Must he go where these processes are actually in progress?—He needs not, if he is familiar with the language of signs and gestures. He describes a kettle by signs; he places the wood beneath it; he fills it with water; he kindles the fire; he portrays the bubbling of the water; he dips his finger into it, and draws it out suddenly, as if it were scalded. He has before learned the name of water "and what do you call this bubbling water." he inquires; "this water which burns my finger? The reply furnishes him with the name he sought, and a sign is also established for the art of boiling, which may be profitably used in various other instances. And in a similar way he may acquire the meaning of all other terms, descriptive of common transactions. still it is his *eye* which teaches him, and not his *ear*. He is still, as well as his companion, practically DEAF AND DUMB.

The various emotions of the heart, the foundation, let it be remembered, of all moral and religious instruction, perhaps next demand the attention of our missionary. He may utter the words *love* and *hate* ten thousand times, and ask as often the islander what are the corresponding terms in his language, but to no purpose. A mother passes who is caressing her infant with parental tenderness, and two friends soon follow her, who are exhibiting, by their looks and conversation, the emotion of love.—Now he has something upon which to fix the attention of the native, and inquires by what term he denotes this feeling. The *eye*, not the *ear*, is still the medium of intercourse. But he might have portrayed a woman by appropriate signs, and the infant whom she caresses, and the friends who were conversing together, without waiting to have these scenes actually take place; and, in addition to this, exhibit the emotion of love strongly in his own countenance. The islander at once comprehends him; and thus a new word, and a new symbolical sign are settled for future use. By similar processes of description, he may speedily add the names of all the passions and emotions of his vocabulary.

He advances to the operations of the intellect; and what an herculean task is before him! By what process shall he present to the observation of the islander, such operations of the mind, as to *think*, to *remember*, to *forget*, to *understand*, to *contemplate*, to *imagine*. He sees at a distance a man building his hut; the man finds a difficulty in the construction of the door; he stops and assumes the attitude of thought. The moment is a happy one, and the missionary inquires by what term that visible exhibition of the internal working of the mind is denoted, and receives a satisfactory reply. But this illustrative example might not have occurred for hours, or even for days. By the language of signs, however, he can portray this very example, and a hundred others equally pertinent; and thus, on the spot, acquire the new word which he seeks.

He rises from the ground: he describes by signs the setting of the sun, and the appearing of the stars, covering the whole concave of the sky; he puts himself in the attitude of contemplation: his eyes leisurly survey the immense assemblage of the heavenly hosts, his countenance exhibits the actings of his soul. The islander who has already caught with enthusiastic ardour this new and fascinating language, immediately utters, in his own tongue, the word which denotes "to contemplate." Still the *eye* claims the honor of being the teacher; the *ear* serves only the humble purpose of furnishing an arbitrary name, by which the imagination may again form, and the memory revives the associated thought.

Our fellow students need a few adjectives to add to their nomenclature; such as high and low, hard and soft, long and short, round and square, bold and cowardly, alive and dead. They are quickly learned: for the various objects to which these epithets belong can easily be presented to the imagination by signs, and also the qualities which are denoted by the above-mentioned terms. And all this is done while our missionary and his friend are calmly reposing beneath their bread-fruit tree.

And now pronouns must be learned, and the cases of nouns, and the comparison of adjectives, and the moods and tenses of verbs. "I give you a fish," says the missionary: "what is that in your language?" He speaks an unknown tongue; but he makes the sign for a fish: he points to himself as possessing it; he hands it to his companion, and signifies that he will not take it back, that it is to belong to his companion. He is immediately furnished with the appropriate phrase. He multiplies examples, and he soon has a little stock of phrases, by comparing of which together he begins to elicit the structure and idioms of the language.—Were he not to pursue this course, he must wait day after day till the suitable occasions occur, illustrative of the phrases, the import of which he seeks. "How many tenses have your verbs?" The question is useless. He must allude to some known past, and some anticipated future event, in order to obtain knowledge on this point; and what carefulness is necessary, if he depends on the common occurrences of life, as they transpire during his intercourse with the natives, in order to acquire an accurate knowledge of this very difficult part of all languages? But if he has well settled, by appropriate signs, the diurnal motion of the great luminary of heaven, the succession of days and nights, of weeks and months, nay of hours and minutes, all of which is quite practicable; and if he is expert in describing motions and actions, he can easily portray a variety of events in such an order and connexion, as to mark all the varieties of time, and thus ascertain how this order and succession are denoted in all the various tenses of language which it is his aim to acquire.

LETTERS TO THE YOUNG, by MARY JANE JEWSBURY, 1 vol.; N. York, D. APPLETON & Co.—These letters have not, that we are aware, been presented before in an American edition, though they have gone through several editions in England.

They are, we are assured by the writer in her prefatory remarks, a real and not a fictitious correspondence—though names are of course suppressed. They are the letters of a pure, humble and enlightened Christian, who has studied the human heart, its temptations and its weaknesses, and has found one only safe reliance for strength—and who earnestly strives to impart to her young friend a sense of the necessity and value of early acquiring the same reliance.

We extract letter XVII. on the dangers of emulation and ambition, as worthy to be deeply considered.

My Dear ——: From what I have observed and heard of you, and from what I recollect of myself at your age, I think I understand your present state of feeling, your tastes, desires, opinions, and senti-

ments. From having drawn them out into action, and from having enjoyed and suffered their consequences, I know too whence they come, and whither they tend. To this you will attribute my affecti onate anxiety on your account.

My love, you are ambitious;—vague, restless, ever-changing desires occupy your mind, and your heart is full of those fair shadows with which romance disguises reality. What kind of distinction is best worth having you have not yet decided; but, as least unattainable in the present state of society, perhaps your thoughts fix most frequently on intellectual celebrity. I say celebrity, for I do not believe that intellectual acquirements would fulfil your vision. Your judgment is convinced of the necessity of spiritual religion; occasionally you are touched with a sense of its worth and sweetness, but you do not believe that it is in itself all-sufficient to make you happy, and your heart rebels frequently against its requirements. You are well aware that you cannot compromise with God; "that you are not your own; that, as "bought with a price," you are bound to surrender all you are, and all you possess, to his service; to account your talents a delegated trust, for the use of which you are responsible, and the glory of which appertains to him! Now this loving God, with "all the understanding," is a stumbling block at which thousands have stumbled, and tens of thousands have fallen to rise no more. To toil, deserve, and acquire, without the stimulus supplied by personal ambition, or an exulting consciousness of superiority; to receive praise and render it to God untouched: to strive for victory and inscribe the trophy with the name of another—this you feel is a "hard saying." Yet, herein lies true happiness and true distinction. Personal aggrandizement is the stately phantom, of which desire to glorify God was once the warm and living substance. It expired in Paradise with Adam's innocence, but divine grace can revive it even here; and it starts into full life and beauty, in that region where each glorified spirit casts his crown at the foot of Him who gave it.—Was not David, making magnificent preparations for the temple which another was to build, and renouncing even the glory of those preparations, nobler and more distinguished than the same David numbering his people from vain-glorious pride? My love, you are dazzled with the dew-drops of earth, because you do not raise your eyes to the sun in heaven. The queen of Sheba thought no more of the glory of her own court, when she had seen the surpassing excellence of Solomon's; and Paul, after he knew him who alone "hath life and immortality," could cheerfully "account all things but loss" for the excellency of that knowledge. Love, the constraining love of Christ, can alone render this self-renunciation easy and delightful—but it can do so; can enable a soul really to like, and rest contented with, life's most secluded path, and most unobtrusive occupations. But do not misunderstand me, and suppose that this renders the cultivation of our talents unlawful, or unnecessary. Never let indolence, as an excuse for supineness, say to vanity, as Balak did to Balaam, "Thy God hath kept thee back from honor." Had you the mind of an angel, religion would not circumscribe its exercise—it would allow you to know, and desire to know; to learn, and determine to learn—all that art, imagination, and science have placed within human reach. One thing religion certainly does—it claims a right to prescribe the motive by which we shall be actuated, and the object at which we shall aim; but surely, the glory of "Him who filleth all things," is no mean motive, and the everlasting welfare of our fellow-creatures, no unworthy object. Besides, with this apparent subjection, it entwines our happiness; and in exchange for the wild liberty of living to ourselves, it offers a joy which the world cannot give, a peace which it cannot take away.

But I have overlooked one material point in the argument. Distinction is not, as David says, of ourselves: "It cometh neither from the east, nor from the west, nor from the south, but God is the judge: He putteth down one and setteth up another." Anxiety, therefore, on this point, is vain even on the ground of probabilities, which, in regard to woman, are as one to ten thousand against her attaining it. Again, if an early desire of distinction has often been the pledge and concomitant of genius, it has yet oftener been associated with presumptuous mediocrity. I am, however, tired of argument; so, I doubt not, are you; let us therefore forget this present world, and realize that coming day when God shall manifest that all which has been "highly esteemed among men," has, in his sight, been "abomination." Would you then be some sparkling wit, or admired poet, or erudite scholar, who, having wholly sought his own glory, and wholly received his reward in this life, has nothing further to expect; or the Christian, who, with one talent or with five, has "occupied for his Lord?" What you would wish to be then, resolve to be now. Fame's trumpet will be silent in that day, and the approbation of God seen to be what it is even now—all that confers distinction. Read the first four chapters of the first of Corinthians as often as you are tempted to covet the pride of life, or "the honor that cometh from men." I do not expect that your heart will agree with my present statements; but I hope for the future; I hope for a blessing on the privileges which you are now enjoying; I hope, too, that you are not indisposed to ask, "What is truth?" at a higher tribunal than that of human reason, and with a more teachable spirit than that of him who first asked the question. One thing you can do; you can, by a painful effort, but one well worthy of being made, resolve to read neither poetry nor fiction till your mind is steadied. Dr. Johnson says, "It is easier to be abstemious than to be temperate;" I think you will find it easier to abstain altogether, than to taste moderately. If, however, you cannot make this resolution, at least read neither poetry nor fiction that will kindle and increase the fancies and desires of which your heart is already too full; at least let it be the fiction fullest of truth, and the poetry fullest of thought. I now bid you farewell, assuring you of my affectionate interest in your welfare.

Tales of the Garden of Kosciusko, by Saml. L Knapp; N. York, West & Trow.—This fanciful title—derived from the circumstance that it was on the little spot amid the rocks of Westpoint which bears this name, that the idea of relaxing his mind from severer labor by a series of light tales, first struck the author—ushers forth several stories unconnected with each other, but each possessing a due share of interest. *The Exile* is particularly well told.

The New England Magazine, for October. Boston: J. T. Buckingham.

The Knickerbocker, for October. New York: J. Disturnell.

The Pocket Annual; New York: J. Disturnell.

The first named of these periodicals is, as usual, varied, original, and spirited. We copy a paper on *Mount Auburn*, because, we do hope New York will one day have such a cemetery, and because there are spots on our island, not much farther from the City Hall than Mount Auburn is from Boston, where nature offers every attraction of hill and dale, and woods, rocks, and water, for such a final resting-place. [For the extract referred to, see page 638.]

The Knickerbocker is good this month; but we have no room for extracts.

The Pocket Annual, is at once an almanac, pocket and memorandum book, with a list of public officers; and finally, some good literary extracts and various engravings. It is convenient, portable and pretty.

The Westminster Review for April, being No. II of the republication of the Foreign Reviews; N. York, Theodore Foster.—We noticed the first number of this republication when it appeared. The numbers of each Review—and the enterprise embraces four, the London, Foreign, Edinburg and the Westminster—will commence with a new volume. The type, paper, and general execution of this republication are very good.

Bernardo del Carpio, a Historical Novel of the Eighth Century: from the Spanish of *Don Jorge Montgomery*. New York: Harper & Brothers.—This tale is rather curious as an *antique*, than interesting, either by its incidents, or any particular fidelity in its narrative. It goes back to the period of the Paladins and the fields of Roncenselles—but it fails to present them vividly to our modern eyes.

Gathering Potatoes.—Recollect that potatoes should not be exposed to the sun when digging them, any longer than can be possibly avoided.

SUMMARY.

The President of the United States returned to Washington, on Tuesday week, in health.

A letter from Dr. Isaac Hulse, of the U. S. Naval Hospital at Pensacola, states that up to the 8th inst. forty cases of *yellow fever* had occurred on board the U. S. schr. Grampus. Four of the crew had died, three of whom with black vomit. He attributes the origin of the disease to the decayed condition of the ceiling of the Grampus.

Early Ice.—The Germantown Telegraph of Wednesday says: "On Tuesday morning, ice was formed in that vicinity, to the thickness of nearly the eighth of an inch."

Destructive Gale.—A heavy rain commenced on the Mississippi, in the region of Natchez, on Tuesday, the 2d ult., and continued till the Sunday following. On the intervening Friday and Sunday a violent gale was experienced, which "prostrated every thing," and caused an immense destruction of crops for a great distance along the Mississippi.

Accident.—At the launch of the Echo yesterday morning, a small boat, containing two men and one woman, being near her stern, was drawn into a position where it was capsized in the whirl occasioned by recoil of the surges in the wake of the vessel—by which means one of the men was unfortunately drowned.

Troy, Monday.—*Stage Accident.*—We learn that one of Walbridge's line of stages for the north, yesterday morning upset near the Washington Hall, in this city, in consequence of a wheel running off.—Nine passengers were in the stage, two of whom were severely injured. Mr. J. M. M'Alister, of Albany, had his arm badly fractured, and another gentleman is now at Washington Hall, considerably injured. Six out of the nine passengers were unable to proceed on their journey.

[*From the Journal of Commerce.*]

Wall Street Church.—We understand that the Trustees of the Wall Street Church have, with the best legal advice, determined that the conditions of the gift of the land upon which the church stands, are such that it cannot be sold and the proceeds invested in other property for the use of the church.—It has been determined therefore to rebuild the present edifice without delay. Besides the difficulty above mentioned, the tombs are private property.

This difficulty did not stand in the way of building large stores, for the sake of the profit to be derived from them, on part of the church yard; to make room for which the sacred ashes of the dead were tossed about with horrid indifference. The organ of veneration—for the dead at least—though strongly developed in the *savage* American, belongs not we fear to his *civilized* destroyers.

Anniversary Celebration.—On Thursday evening three of our diocesan societies held their annual meeting in St. John's Chapel. The celebration was preceded by appropriate religious services conducted by the Bishop, who presided on the occasion. The congregation was numerous, and a great proportion of the clergy was present. The report of the Tract Society was first read, by the Rev. Aldert Smedes, jun., of Christ Church. Resolutions expressive of the satisfaction with which it had been heard, and of the importance of the cause, were then offered by Rev. T. S. Brittan. Next followed the report of Aux. N. Y. Bible and Common Prayer book Society, which was read by William Betts, Esq. Similar resolutions were then submitted by the Rev. J. F. Schroeder, who, by a reference to the early history of the Church of England, illustrated the important agency of Episcopalians in the dissemination and exposition of the Scripture. The Report of the Education and Missionary Society was then read by the Rev. Hugh Smith, Rector of the Mission Church of the Holy Evangelists. It was longer than the other reports, but was a clear and well written document, and presented several views of much interest and importance. This was followed by an animated effusion from the Rev. Lot Jones, of the Mission Church of the Epiphany, on the pains and pleasures of the Missionary life. The ceremonies of the evening were then closed with appropriate devotional exercises.—[Churchman.]

Fort Adams.—More than five hundred men are employed on the great Fort, at the entrance of Newport Harbor. The weekly disbursements are about twelve thousand dollars.

FAIR OF THE AMERICAN INSTITUTE AT NIBLO'S.—The general result of our examination of the various articles presented at this exhibition is, that although it seems to us less varied, and, as a whole, less attractive, than preceding ones, there is manifest improvement in the quality and workmanship of the articles exhibited; and that we take to be the best evidence of the value of such annual shows. It would be quite impossible for us to enumerate, after a single visit,—(we have not been able to find time for a second,) all, or even any considerable portion, of the goods, wares, and varieties exhibited. In noticing, therefore, as we shall now proceed to do, some specimens, it must not be taken as a slight of others.

The first objects that arrested our attention, were three carriages of different construction, in the covered walk.

183, is a double-seated phaeton, leather top extending over the whole, with a coachman's seat, removable at pleasure, and the front seat of the phæton so arranged, as to be turned round, and become faced to the horses. The makers are *J. Cooke & Son*, and in this sample they have turned out a very finished piece of work.

No. 54—a four-wheeled Stanhope, with two seats and small rumble behind, which, when not needed, is shoved in, so as not to be seen at all. Makers, *Isaac Mix & Son*. This is also an extremely well finished carriage, and withal, light and tasty.

No. 405—a one-horse Stanhope wagon, with turn-over seat—same makers.

Entering the saloon, the eye hardly knows where to rest. Looking, however, to the left, we found *McDonald Clark*, or a bust that is his fac simile, watching all who entered. We went up to it at once, and have rarely seen a better likeness, better executed. The materiel is a composition, whic takes all the polish, and seems to have almost the solidity of marble. Beside the poet, is the head of a dead infant, where the calm repose of death is admirably typified. The sculptor of both is *James V. Stout*, of 566 Broome street. These busts stand on two *Scagliola* columns, imitating marble admirably, and at a price greatly below that of marble. These imitations, in all varieties, are executed by *Clark & Dogherty*, 40 Hamersley street.

Passing thence along the north side of the saloon there is a great variety of shell-work, ingeniously and laboriously put together. In a frame by itself, there is a ladies' cape and hat in feathers, made by *Mrs. Little*, 440 Washington street. At the extremity of this walk, are some sculptured marbles, executed with a good deal of delicacy and skill—a part by *Wm. Eagleson*, 150 Broadway, and others by *R. J. Brown*, of Greenwich street. A centre table of dark and variegated Egyptian marble, with pedestal of the same, the whole of great beauty and finish, which we afterwards saw in another part of the saloon, is also of the manufacture of *R. I. Brown*. A case of Shears, part of them of what was described to us as German silver—the cutting part of the best steel—seemed to attract much notice. Near them, Flutes finished with great nicety, and with stops more, one would think, than ten fingers could govern; and Guitars, from *J. H. Atwill's*, Broadway, that Spaniards even might covet, tempted musical amateurs; while other persons more on household goods intent, were examining and admiring some Spermaceti Candles of the manufacture of *Samuel Judd*—hard, polished and diaphanous as finest alabaster. Close by were some loaves of refined Sugar from *R. S. & A. Stuart*, Greenwich street, white and close grained as Parian marble. Turning from which, the Perfumes, Soaps and toilet accessories in every variety, of *Johnson & Co.* of 35 Cedar street, agreeably arrest the senses both of sight and smell. Hard by is a fine display of Broadcloths, soft and glossy to the touch—of the color, seeing them by gas light, we could not judge. Among them were the "Denny cloths," from Oxford, Mass.; cloths manufactured from American wool at Marlborough, Ulster co., by Jno. Buckley. Farther on, some pieces of Nankeen, made by the *Lonsdale Co.*, Rhode Island, from nankeen cotton grown in Georgia, might well pass for Chinese goods; next some American calicoes of the fashionable patterns of the day, manufactured by *A. Robinson*, Fall River, Mass., and sold by Brown, Brothers & Co. here, would, as it seemed to us, bear comparison, both as to texture and colors, with the best imported fabrics. India Rubber too, put to strange uses, may here be seen: garments light and well finished, and withal impervious to the rain, from the *Roxbury factory*, Mass.; life preservers of the same material, and cushions, to be inflated as required. These are all for sale here at *Winslow's*, 66 Maiden lane.

At the extremity of the Saloon there were Carpet rugs of substantial fabric and bright colors from *Lowell*, Mass., also good Oil Cloths from Lansingburg, in this State. Many articles of cabinet furniture were here exhibited. A centre table inlaid with different woods, by *Wm. Pitcher*, cabinet maker, 38 Elm street, very handsome; a secretary, of the finest grained and most highly polished mahogany, with every convenience, by *B. Bosch*, cabinet maker, 196 Broadway; a counting house desk and table, perfect in its arrangement—also two highly finished music stools, by *Samuel Carter*, cabinet maker, 51 Beekman street; sofa beds, by *Brickles*, that might pass for handsome sofas in the best furnished apartments; the same by *Woolley*, 578 Broadway, and so constructed as that the sacking bottom can always be drawn tight. Mr. Woolley has also some very ingenious cots for sick persons, whereby the position may be varied without effort on their part. Among many imitations of marble on wood, we were struck with those by *Geo. Bird*, grainer, 148 Sullivan street. A case of composition ornaments, such as capitals of columns, friezes, &c. by *John Tallier*, manufacturer, 185 Spring street, introduced us to a new and valuable invention.

Returning towards the entrance and hastily glancing at some handsome silver from *Marquand's*, Broadway, and from *Thomson's*, 129 William street, among the latter two particularly pretty fruit baskets, at the famous display of the various articles of stationary from *D. Felt's*, and at two Indians carved to the life, though in a little, out of a solid block of mahogany, by *J. Dodge & Son*, 75 Columbia st., and intended as a front stauchion of fire engine No. 4—a rapid turn in the gallery brought under our notice several highly finished pianos—some capital specimens of writing, by *Isaac F. Bragg*—the beautiful head of a beautiful child, painted in oil, by *H. I. Hubard*, now of Baltimore, and known formerly when Master Hubard, for his skill in cutting paper likenesses—a spirited sea piece, in water colors, by *J. W. Hill*, and the portrait, in oil color, of a boy—well done—by *Marchant*—and here, for today, we must stop our fairing.

THE FAIR.—We hope to be able to continue our notice of this interesting exhibition; meantime we are informed, and so state, that instead of fewer articles than heretofore being in exhibition, there were last evening fifty-three more contributors than on any previous occasion, and the number was still increasing. The greater extent of the saloon and galleries has the effect of apparently diminishing the extent of the shew.

THE COMMENCEMENT OF COLUMBIA COLLEGE took place yesterday.

The Procession moved from the College at half past 9 A. M. passing through Park Place, Broadway, Walker and Varick streets, to St. John's Chapel, in he follo wing order:—

Janitor of the College.
Students of Arts.
Candidates for the Degree of Bachelor of Arts.
Former Graduates. { Bachelor of Arts. / Candidates for the Degree of Master of Arts. / Masters of Arts.
Honorary Members of the Philolexian and Peithologian Societies.
Teachers of the Grammar School of Columbia College.
Principals of Public Schools and Academies.
Faculty of Arts of Columbia College.
The President.
Trustees of the College.
Alumni of King's College.
Governor and Lieutenant Governor of the State.
Members of the Legislature from the City and County of New York.
Mayor of the City.
Regents of the University.
Foreign Ministers.
Judges of the United States, State, and City Courts.
Members of Congress.
Strangers of distinction.
Foreign Consuls.
Commanding Officers of the Army and Navy of the United States.
Civil Officers of the United States.
Corporation of the City.
Clergy and Professors of Theological Seminaries.
Officers of the State Medical Society and of the Medical Society of the City and County of New York.
President and Professors of the College of Physicians and Surgeons.
Officers of the University of the City of New-York.
City and County Officers.
Trustees of the Public Schools.
Trustees of the High School Society.
Officers and Members of Literary Societies.
Officers and Members of the Academy of Fine Arts.
Officers and Members of the National Academy of Design.

When the procession arrived at the Church, the exercises of the day were opened with prayer by the President, after which the Candidates for the Degree of Bachelor of Arts delivered their Orations in the following

ORDER.

1. Latin Salutatory Address, with an oration, "Neque majus aliud neque præstabilius humani generis natura invenias."—Isaac C. Delaplaine.

Music.

2. English Salutatory Address, with an Oration on "The comparative effects of Genius and Industry."—William H. Hyde.

Music.

3. An Oration on "The Moorish Character."—Samuel E. Johnson.

4. An Oration on "The Dignity of Human Nature."—Henry Heyward.*

5. An Oration on "The difficulty of forming a Correct Estimate of Character."—Edward K. Bryce.*

6. An Oration on "The Genius and Influence of Women."—William M. Allen.

Music.

7. An Oration on "The Causes of the Progress of Society in Modern Europe."—John Conger.

8. An Oration on "the influence of imagination upon Intellect, considered particularly with reference to Fictitious Writings."—Richard E. Mount, Jr.*

9. An oration on "The excellence of Common Sense, considered particularly in its application to Philosophy."—William Demarest.

Music.

10. An Oration on "Education"—William Dennis.*

11. An Oration on "Memory."—Alexander Major.*

12 An Oration on "The Power of Superstition."—Robert S. Swords.

13. An Oration on "The Characteristics of the Mathematician."—William M. Gillespie.*

14. An oration on "The Importance of Political Economy as a Branch of Education."—John S. Heard.

Music.

15. An Oration on "The Institutions of Chivalry."—William B. Casey.

16. An Oration on "The Republican Form of Government."—James M. Cockroft.

18. An Oration on "The Pleasures and Advantages of a Cultivated Taste."—James M. Beekman.

18. An Oration on "The Pursuit of Happiness."—Philip Rhinelander.*

Music.

19. An Oration on "The Insufficiency of the Light of Natural Reason."—Lloyd Windsor.

20. An Oration on "English Poetry."—William G. King.*

21. An Oration on "The benefits derived from Intellectual Pursuits."—William Cockcroft.*

22. An Oration on "The Troubadours."—William Dodge.

23. An Oration on "The Evidences afforded to the Truth of Christianity by its contrast with the Systems of Ancient Philosophy."—Benjamin S. Huntington.*

Music.

The Honorary Testimonials were then announced and presented by the President, after the following explanatory remarks:

By a statute of this College, it is ordained, that at the concluding examination, there shall be awarded in each Class, a Gold Medal to the student of the best general standing; and also to the student of the best standing in each particular department of study, a Silver Medal; and to the second best student, a Medal of Bronze; which honors are directed to be awarded and conferred at the Annual Commencements. We now proceed to the performance of that grateful duty. Those students, therefore, to whom Medals were adjudged at the late concluding examination of the several classes, will present themselves upon the stage, in the order in which their names are called.

I. Senior Class.

The Gold Medal for the Student of the best general standing in the class, to ISAAC C. DELAPLAINE.

I. In the Department of Constitutional Jurisprudence—

1. The Silver Medal, to EDWARD K. BRYAN;
2. The Bronze Medal, to WILLIAM M. GILLESPIE.

II. In Moral and Political Philosophy—

* Students having an asterisk affixed to their names, are absent by permission, or excused from delivering their Orations.

1. The Silver Medal, to ISAAC C. DELAPLAINE;
2. The Bronze Medal, to JOHN S. HEARD.

III. In Greek and Roman Literature—
1. The Silver Medal, to ISAAC C. DELAPLAINE;
2. The Bronze Medal, to WILLIAM DEMAREST.

IV. In Natural, Experimental, and Mechanical Philosophy—
1. The Silver Medal, to WM. M. GILLESPIE;
2. The Bronze Medal, to ISAAC C. DELAPLAINE.

V. In Mathematics and Astronomy—
1. The Silver Medal, to ISAAC C. DELAPLAINE,
2. The Bronze Medal, to WILLIAM DENNIS.

2. Junior Class.

The Gold Medal for the Student of the best general standing in his Class, to ORLANDO HARRIMAN, jr.

I. In the department of the Rhetoriek and the Belles Lettres—
1. The Silver Medal, to ORLANDO HARRIMAN, jr;
2. The Bronze Medal, to EVERT A. DUYCKINCK.

II. In Greek and Roman Literature—
1. The Silver Medal, to ORLANDO HARRIMAN, JR;
2. The Bronze Medal, to CHRISTIAN ZABRISKIE, JR.

III. In Chemistry applied to the Arts—
1. The Silver Medal, to ORLANDO HARRIMAN, JR;
2. The Bronze Medal, to LUDLOW THOMAS.

IV. In Mineralogy and Geology—
1. The Silver Medal, to JEDEDIAH B. AULD;
2. The Bronze Medal, to JOHN H. RIKER.

V. In Mathematics and Astronomy—
1. The Silver Medal, to JEDEDIAH B. AULD;
2. The Bronze Medal to ORLANDO HARRIMAN, JR.

3. Sophomore Class.

The Gold Medal, for the Student of the best general excellence in his class, to GILES M. HILLYER.

I. In the Department of History—
1. The Silver Medal, to HENRY MCVICKAR;
2. The Bronze Medal, to GILES M. HILLYER.

II. In Greek and Roman Literature—
1. The Silver Medal, to GEO. HARRISON LYNCH;
2. The Bronze Medal, to GILES M. HILLYER.

III. In Elementary Chemistry—
1. The Silver Medal, to GILES M. HILLYER;
2. The Bronze Medal, to JAMES RENWICK, JR.

IV. In Geometry and Spherical Trigonometry.
1. The Silver Medal, to HARVEY A. WEED.
2. The Bronze Medal, in Geometry, to G. W. HILLYER. In Physics, to H. MCVICKAR.

4. Freshman Class.

The Gold Medal for the Student of the best general standing in the class, to SAMUEL BLATCHFORD.

I. In the department of Rhetoric, &c.
1. The Silver Medal, to SAMUEL BLATCHFORD.
2. The Bronze Medal, to JOHN MCMULLEN.

II. In Greek and Latin Classics.
1. The Silver Medal, to SAMUEL BLATCHFORD.
2. The Bronze Medal, to JOHN MCVICKAR.

III. In Roman Antiquities.
1. The Silver Medal, to THOMAS G. TALCOTT.
2. The Bronze Medal, to SAMUEL BLATCHFORD.

IV. In Ancient Geography.
1. The Silver Medal, to THOMAS G. TALCOTT.
2. The Bronze Medal, to GEORGE S. VAN CLEEF.

V. In Geometry and Algebra.
1. The Silver Medal, to SAMUEL BLATCHFORD.
2. The Bronze Medal, to CHARLES E. SHEA.

When this most interesting ceremonial was concluded, the young gentlemen who had won the honors remaining on the stage, were thus feelingly addressed by the President:

Young Gentlemen: Besides publicly announcing your names and delivering the testimonials awarded to you as directed on this occasion, it is due to you to present you personally to the Government of the College in the face of this assemblage of your parents, friends, and fellow-citizens, as those sons who, during the last Collegiate year, have deserved best of their *Alma Mater*, and whom consequently she delights to honor. To have earned this distinction when the claims of others were so nearly equal to your own, must be a source of lasting gratification to yourselves, as well as of just exultation to those with whom you are most nearly and dearly connected; whilst the rewards bestowed on you may incite your fellow students to greater diligence, and awaken within the breast of all who remain within our walls an ardent spirit of persevering exertion and generous emulation. To those of you who continue with us, I cannot but express a confidence that you will pursue to the end the course thus auspiciously begun; and that the evidence now given of the approbation of your instructors, will bind you to consistency, from regard both to your own characters, and their estimation of them.

To those of you who have finished your academical career, and are about to enter upon new and untried paths, to you who are now to leave the peaceful retreats of Science for the allurements, cares and duties of Society, who are to exchange the discipline of the College for that of the world—to you my young friends, from whom we are this day to part, I hope and trust that your success in youth may prove an earnest of your prosperity in manhood, and that the honors you have obtained as scholars will be pledges of your future renown as wise and good, as intelligent and useful, citizens.—Thus may your example operate beneficially upon the companions you leave behind you and its influence be extended to your remotest successors.—Cherish this reflection in your hearts, for it will not only impart consolation amidst the disappointments and afford you satisfaction amidst the enjoyments of this life, but it will survive your present existence and increase your happiness in that which is to come."

Music.

The Degree of *Bachelor of Arts* was then conferred on the following named Students of the Senior Class, viz:

William M. Allen, James W. Beekman, Edward K. Bryar, William B. Casey, James M. Cockcroft, William Cockcroft, John Conger, Isaac C. Delaplaine, William Demarest, William Dodge, John S. Heard, Henry Heyward, William H. Hyde, Samuel E. Johnson, William G. King, Alexander Major, Richard E. Mount, Jr., Philip Rhinelander, Robert S. Swords, Anthony Ten Broeck, Lloyd Windsor.—Also on William Dennis, William M. Gillespie, and Benjamin S. Huntington, absent by permission.

The Degree of *Master of Arts* on the following gentlemen, Alumni of the College, viz.:—

John W. Mulligan, Michael Floy, Jr. Hamilton Morton, M. D. Samuel S. St. John, Robert Emory, Timothy R. Green, William W. Van Wagenen, P. Stuyvesant Fish, John B. Purroy, Robert Watts, Jr. M. D. Abraham B. Conger.

Honorary Degrees were conferred as follows:—

That of L. L. D. on DON THOMAS GENER, late President of the Spanish Cortez; that of D. D. on the Rev. THOMAS W. CORR, of Cambridge, Massachusetts, and the Rev. WILLIAM A. MUHLENBURG, principal of he Flushing Institute.

The Honorary Degree of A. M. was conferred on WILLIAM SHERWOOD, Principal of a Classical School in the city of New-York; and on ROBERT J. HARVEY, an Assistant Teacher in the Grammar School of the College; also, on Rev. O. CLARK, of Lockport, N.Y.

Music.

24. Valedictory Address, with an Oration on "Moral Sensibility."—Anthony Ten Broeck.

The Exercises of the day concluded with prayer by the President.

Altogether the celebration was one of great interest;—the beauty of the weather, the numerous audience, the presence of many citizens distinguished by station, by learning, and by public services—and especially the general good taste, good sense, and good style of the orations, were calculated to gratify all who look to this College as one of those few institutions of our country pre-eminently fitted to raise up a race of thoroughly educated young men. Among the honorary degrees conferred was one, it will be perceived, of *L. L. D.* on DON THOMAS GENER. This affords us the opportunity of stating, what however is probably already known to many of our city readers—that this distinguished foreigner, who, since the restoration of the beloved Ferdinand, has been a proscribed exile in this country, is now about to return to his own. A native of Old Spain, he went at an early age to Cuba, where he subsequently resided, and whence, together with *M. Suarez*, now engaged in commerce in this city, and the Rev. Mr. *Varela*, the truly spiritual and exemplary pastor of the Catholic Church in Ann street, he was sent as a deputy to the Cortes of Spain, when in 1823 Spain made an effort to be free. His manly eloquence, his enlightened mind, his energetic character, soon marked him as a leader, and raised him, for a portion of the time when the Cortes were held at Seville, to the presidency of that body. It was there they pronounced the downfall of Ferdinand—in which judgment DON THOMAS GENER concurred—and for which he was condemned to death with confiscation of his property. Under these circumstances America held out to him her protecting arms. He came among us an exile—he has lived among us as a valued friend; and now, when the political condition of his native land allows him to return to Cuba, with rights reinstated, and an unsullied name—he leaves behind him the memory of many benefits conferred, friends who will not forget him, and an unsurpassed reputation for probity, high honor, and high intellectual attainments.

We rejoice that Columbia College should have added his name to the—not long, but most honorable catalogue of those who have heretofore received her honorary degrees; and are gratified too, by publishing the annexed correspondence, to show, that private friends were not less sensible than this public institution, to the merits of such a man:

New York, 1st October, 1834.

SIR—Apprised of your intended return after so many years absence to your own country, we are desirous in connection with other of your friends, in whose name as well as in our own we speak, to have the pleasure of your company at a parting dinner on any day that may be convenient to you.

In the long period, since as a proscribed Exile in the cause of Liberty, you first sought these shores, during all which you have been a resident of this city, we have had too many opportunities of observing and appreciating the high qualities, social, moral and intellectual, which had secured to you the confidence of the liberal portion of your own countrymen, not to feel, now you are about to return among them, that what is our loss is their gain. While, therefore, we may not regret, what both to them and to you cannot be other than a matter of congratulation, we yet desire the opportunity of marking, by something more than a mere private manifestation, the esteem and respect with which you have inspired the strangers among whom you have worn out years of banishment. Hence the invitation we have the honor to communicate.

We are, Sir, with great respect, your ob't humble servants,

James G. King,	G. C. Verplanck,
Geo. Griswold,	Jno. Duer,
Arch. Gracie,	Wm. H. Aspinwall,
Jon. Goodhue,	Ch. Aug. Davis,
Chas. King,	John A. Stevens,
James Kent,	Augustus Fleming,
L. Peugnet,	H. Peugnet,
Mariano Velasquez de la Cadena,	
F. Lacoste.	

To DON THOMAS GENER,
Ex-Deputy from Cuba to the Spanish Cortez, and Ex-President thereof.

New-York, 2d October, 1834.

GENTLEMEN—I have received with inexpressible gratitude, the friendly invitation to a parting dinner, with which you have favored me. I am sorry to say the time which is left me is so short, and the calls upon that little so numerous, as to place it out of my power to accept of your kindness, although my heart is sensibly touched at saying so. Besides, I have been so very happy in this city, and have received so many testimonials of your esteem, that I have not been able to suppress the emotions of my tenderness every time I have met with either of you during these last days. What, then, would be the effect of seeing you all gathered together with no other object but to do me honor?

I am likewise indebted to you for the favorable opinion you express of my moral qualities, which would be the delight of my after days, if I could be persuaded it originated in any merit on my part and not in mere generosity on yours. But, perhaps, the debt of most importance I have contracted in this country consists in the excellent lessons and good examples I have received in it. What recourse have I for the extinction of so many debts? None other occurs to me but to avail myself of all opportunities honorably to serve such creditors, and to pray to God continually for their prosperity, and for the preservation of all those social guarantees on which repose public order, and the liberty and prosperity of individuals; that is to say, for the preservation of your admirable institutions in that perfection which appals the despot, and is the polar star of all friends of the people.

With these sentiments and desires which proceed from the inmost recesses of my heart, I bid farewell to you, and the other friends whom you represent.

Trusting you will accept of my excuses, I am, Gentlemen, with great respect, your obedient servant,

THOMAS GENER.

To JAS. G. KING, Esq. and others, &c.

[*From the New-England Magazine.*]

Mount Auburn.—"Let us go out to Mount Auburn," says some one of a gay party, just stepping into their vehicles or mounting their horses; and away they dash, full of life, and health, and beauty, to visit the mansions of Death, where he seems to reign in his most elaborate and yet solemn magnificence, reminding us, as they sweep by, to make a sober jest with the line of the poet—

"The paths of glory lead but to the grave."

"Let us ride to Mount Auburn," says the *ennuyé*, rising from dinner, with the prospect of a long afternoon before him; and forth they go, to rid themselves of Time, among the final homes of those who have exchanged it for Eternity. "Let us go out to the Cemetery," whispers the wife to the husband, as some lingering sunset is softening into twilight, half doubting lest he should check the wish, which he knows to spring from a mother's heart; but he yields to the request, and they visit the grave of their child, to strew a few flowers upon its new enclosure. "You must go out to Mount Auburn with us, this afternoon," says the citizen to the stranger; and thither they go, too, to talk learnedly of obelisks and monuments, national taste, Westminster Abbey, and Pere La Chaise. Reader, let *us* go, too; but let us walk, nor drive up in dusty splendor to the crowded gateway, tossing our reins to the keeper as we would to the ostler of a tavern.

And yet, notwithstanding all that sometimes offends the taste before you enter, in spite of the incongruity of ideas, which the crowd of vehicles and the looks of the riders will excite, when you are once within the enclosure, Fashion and the World, and Gaiety, and Splendor, are soon forgotten.—Standing in the dark groves, where the broken light falls down through the opening of the trees, and singularly possessed by the wonderful stillness of the place, the most distinguished air and the most fashionable tournure will pass unnoticed, when you would have turned to gaze, had you met them in the street. The visiters, too, one and all, no matter what their mood when they reached the gateway, are at once sobered and subdued, as soon as they have passed under those gathering shades. You shall see a young lady leap from the carriage, laughing in all the luxury of youth and health, and revelling in some jest which has been started; and when you pass her in an avenue, or meet her on the hill, she will be lost in contemplation, and forget to return your civilities, if you should not yourself be too abstracted to offer them. Still, the influence of the place is not a melancholy or a saddening influence; it is better—it is expansive and soothing, filling the mind with the beauties of nature, and thus breaking the force of any passionate expressions of affliction, which may be ready to burst forth, and uniting the great idea of death in general, with images and objects which are not shadowy and hard to grasp, but before us, around us, and familiar. We never go in there, without feeling the deep philosophy of the sentiment which Shakspeare has put into the month of Timon, when he makes him say, that he will make

his everlasting mansion
Upon the beechèd verge of the salt flood;
Which once a day with his embossed froth
The turbulent surge shall cover;

thus expanding an individual feeling into the vastness and extent of the ocean itself, and depriving it of its bitterness by connecting it with the most magnificent image in nature. We think, indeed, that no one can go in there and give himself up to the spirit of the place, without feeling something of this expansion—this breaking away from the narrow localities of the dismal church-yard, and diffusing the thoughts over a space that admits and embraces greater sympathies with the creation. The moment the feelings are concentrated, if the subject be ourselves or our own griefs, that moment they are cramped; and when we dwell on the confined and ordinary habitations of the dead, with no images of beauty or magnificence to lead away the thoughts from decay and corruption, we are borne down by our feelings of grief, and disgust, and harrowing sorrow for the dead. But in these beautiful pleasure-grounds of Death, there is every thing needful to rob it of its terrors, while the place of the deposited remains is sufficiently indicated and exact, to give the feelings a spot on which to dwell. We never lose a certain sort of sympathy for the dead, which arises from placing ourselves in their situation and imagining—strange solecism! but actually one which we commit—imagining *how they feel*. If they are sunk beneath the ocean's wave, we follow them down into those all unvisited depths, where living man never has approached and never can. If, as with the ancients, their bodies are consumed, we strive to go in thought with each atom to the elements into which it is resolved; and when, at last, the resulting dust is gathered up, we would fain flatter ourselves that all is concentrated there. If they are placed in the common grave, we think, painfully, indeed, and with averted eyes, on the work of dissolution. Wherever they go, whatever disposition is made, thither we go with them, in waking hours and in dreams; and if any thing can be done to beautify the spot, it is so much taken from the cold, repulsive, cheerless condition, in which our feelings are ever presenting them to us. The history of sepulchral architecture and funeral customs has here a deep foundation in the necessities of our nature and condition. We cannot bear that the transition should be so sudden and complete, as it is in its original, unadorned, and simple state. We would make the dead to "stay a little longer," by surrounding them with things which really belong to this world, but which we have thereby consecrated to uses on the passage to the next. Why did the Indian lay the bow and arrow, and slay the dog, by the side of the dead?—Why did the Egyptian embalm and emblazon? Why do the natives of Southern Africa carry food and raiment to their cemeteries? Why do we busy our grief about the marble and the shroud, deeming it a sacrilege that the dead should be more meanly served than was their wont in life? Not solely in any of these cases, from a regard to decency and custom; but because we would feel, if haply we can persuade ourselves to do so, that they are not wholly beyond the consciousness of pomp and ceremony, and have not ceased to be within the sphere of circumstance. We would connect them back, if we could, by some of the things of sense, "the appurtenances of affectionate superstition;" and knowing that we cannot pass over the great gulf, really to minister to their wants, we solace ourselves by creating imaginary wants for that only part of them that is still within our reach.

But we are at the gate, and must drop our speculations. Reader, you may not have been there, if not a dweller in the neighborhood; or, if you have, it cannot be unwelcome to stroll with us again thro' the grounds. As you go in, there is the beautiful sarcophagus, chiseled in Italy, erected to the name of Spurzheim, who died among us, as if without a country, but as a citizen of the world, and a member of the human family,—meeting the visiter first, on his entrance, as if to remind him how completely all the members of this great family, whether of the East or the West, are mingled and united at the grave. A little farther on, lies all that was mortal of him, who ministered in the temple of Law, and whose spirit still lingers in the University, shining in the labors of his successor. Where is his learning now? Where his clear reasoning, his refined acuteness, his grasping intellect? They are active in that other sphere, for which the discipline of earth was meant to prepare them. And where is the gratitude of his pupils? Does the marble still sleep in the quarry, or has the chisel begun its work? As you turn to the right, in one of the larger dells, she who traced the recorded History of Religious Sects, lies buried; "First Tenant" of the Cemetery, who led the way, in her fullness of hope and usefulness, down into the new valley of death, at the head of that long train, which every day is gathering in.—Many other names meet the eye, of fathers and parents, who have here prepared the last resting-place for themselves and their families, even as in the city they have built fair, costly homes for their sojourn of life. And now we have wound our way up to the hill-top, let us pause, and look around, and think.

We are but beggarly at description, even with rich autumn woods and fair towns at our feet. But we cannot forbear to remind you of the river on the one hand, and the lake on the other, and the long stretch of marshes, with the University, and then, the city beyond. The city—with its thousand pulses of life, beating warm and quick, through the heart of society—how many eager hopes, vast plans, idle fancies, useful purposes, are there; how do they toil, and enjoy, and pull down, and build up, and then—*here!* here, where sleep cannot be disturbed, though the roar of twenty Babels were rising up into the peaceful groves, and where the unbroken goings on of nature seem to mock the fitful, feverish courses of man. Here the hand will fall, and the eye sink, and they be brought out, one after another, to lie here and take their rest. And still the world will go on, nature and society, nor be stirred in its heavy current by the falling of their stricken leaves. Do their thoughts ever come up here, to contemplate that final rest? Does the image of this spot ever rise up before them, in the haunts of business, or the throng of pleasure?

We remember, on the day when this place was consecrated, sitting down with a friend, and remarking, that the proprietors seemed in great haste to lay out the grounds, as it would probably be long before many interments would begin to be made. But the seal has long been fully set to that ceremony of words, by the consecrating presence of Death itself. Some, who were of the multitude here assembled on that day, now lie in the recesses, which they then admired, and, perchance, selected; and many more come daily to wander over the grounds, anticipating, perhaps even longing, for the time, when they, too, shall set up here their everlasting homes. The moral influence of such an establishment, in the immediate vicinity of a large city, cannot be too highly measured, or too often dwelt upon. It is here, that the prospect of death to ourselves, or that of friends, may become familiarized to the degree, and in the manner, that it ought to be; familiarized, by being divested of the old accompaniments, which have made it revolting, and, by being connected with much that is lovely, and tasteful, and new. Whoever thinks of visiting the common grave-yards in a city, to stumble over crowded mounds and old sunken monumental stones? Who can do so, but at the call of duty?—And who does not feel the inestimable blessing of going to the grave of buried friends, amid scenes and objects that do not render it an utterly repulsive task? "When the funeral pyre was out," says the quaint Sir Thomas Browne, "and the last valediction over, men took a *lasting adieu* of their interred friends." Now, indeed, the lasting adieu is taken, both of that which dies, and that which cannot die. But the place of rest can be visited with holy joy; the sorrowful is steeped in the beautiful; the dark, deep waters of affliction can flow on, imaging in their bosom the loveliness that can be caught on earth.—We have no fears that the fine effect should be lost, through publicity and the debasing purpose of a mere lounge for idle pleasure. The novelty will wear off, in a few years, both to the immediate neighborhood and to the more distant parts of the community; and, so long as the place retains its features of stillness and beauty, it will be impossible for levity often to invade its precincts, without sinking to the tone, which they inspire. There have been some few indications of a different spirit; but we have too much confidence in the natural influence of "whatsoever things are lovely and of good repute," to anticipate that it should be wholly lost on the public feeling.

We would say something of decorations and monuments, did we feel sure that our individual opinions are consonant to the intrinsic dictates of good taste and reason. Variety there must be, in these things, and ought to be; for the ornaments set up here, are but types and expressions in the variety of human feeling and affliction, now taking the form of hope and aspiration, now breaking forth in passionate expression, that cannot rise from under the weight of grief, and, sometimes, in fantastic conceits of sorrow, mingling images and thoughts that even verge upon the grotesque. But, in considering this subject, though there are, doubtless, in the sepulchral, as well as all other arts of decoration, certain principles of taste to be violated or to be followed, yet we have need, before we condemn, to cultivate a catholic and tolerant spirit. Whatever has been or shall be erected under the dictates of feeling and pious sorrow, will be sure to fall within the compass of the natural and the true; what is expressed in words, or figured in symbols, will be consistent with the heart and mind from which it emanated, and will embrace some of the forms and some of the ideas, in which the boundless variety of human grief and passion seeks its natural expression. We should go in there to admire or disapprove, precisely as we would go into the great field of human character itself.—Some are nearer to, some more remote from, the standard of perfection; but all were not made to be alike, and in all, we reverence the likeness of the Maker. So the grief and the piety of all men will not find its expression under the same forms, and by the same attempts at external and fixed ideas; and, therefore, one element of correct judgment, on such a point, must be a regard for that metaphysical and moral principle of variety, which runs through all nature, and all classes of ideas. We do not mean, however, to deny the cultivation of the public taste, by good models and long attention to the subject; our argument only is, that whatever is done from feeling, will be, in this high and universal sense, natural and tasteful.

The sun is gone down, and the moon is up,—the Autumn moon,—with its flooding light, filling the air with its cold, silvery shower, and struggling down through the thick foliage into the dark groves, far below. What Elegies would not Gray have written here! if, from a common church-yard, he could

so strike a chord that has sounded through the world. What Night Thoughts would here have swept thro' the mind of the melancholy, but pious Young! The burial-places of a city's dead! When a half century has passed, and when, of that active throng, the eloquent tongue, the skilful hand, the robust form of manly beauty, and the charm of female loveliness, shall all have come to moulder here, how will your borders be hallowed to that generation! How will the fond regrets, the deep remembrances, the generous pride of thousands, centre here! Let them live on, while yet they may, and busying eager life in all the ways which duty and pleasure have wrought out. Let them live on,—for the trees are now growing, that shall flourish over their graves, and the marbles are in preparation that shall record their simple story, or their elaborate eulogium. Let them live on—and buy and sell, and laugh and weep, and love and be disappointed, and press on and be checked in their eagerness. Let them live on,—for "there is a time for all things." G. T. C.

A Chinese minister presented this instruction to one of the emperors of his day, who was then about eighteen years of age. It may be considered as an epitome on the art of governing:—"Fear Heaven; love your subjects; employ men of merit; be always ready to listen to good advice; lessen taxes; mitigate punishments; banish prodigality; avoid luxury; and give good example."

To the Editor of the New York American:

In looking over some of the letters of your late travelling correspondent H., I was struck with a request that some friend would throw his beautiful translation of an Indian Serenade into a different dress. Not aware that any one has done it, and trusting that he will pardon the liberty in a stranger, who has read the published letters with avidity and interest, and impatiently awaits the promised volume that is to contain the remainder, I send you the following version.

As I deem the native simplicity of the original translation its chief ornament, I have endeavored as much as possible to preserve it, but fear it has lost much of its beauty by being cramped into rhyme.—If, however, you find it to possess any merit, you are at liberty to correct, and do what you please with it.

Brightest bird of the prairie, awake thee! awake!
Let thine eyes, like the fawn, beam their gladness on me,
As flowers from the dew all their sweet odors take,
So my spirit its happiness borrows from thee.

Like their fragrance at noon is thy own balmy breath,
Or their sweetness at eve, when the red leaf is falling—
Of the freshest, my fair one, I've twined thee a wreath;—
Then awaken! awaken! thy own love is calling.

As springs long enchained by cold winter's strong bands,
In gladness bound upward to meet the warm sun,
So my heart leaps to thee, fairest flower of all lands—
So does my blood towards thee in one current run.

My soul sings in joy whene'er thou art near,
As the branches of summer respond to the breeze;
But alas! when away, there is no one can cheer—
Then awaken, and bid my heart sing like the trees.

When thy glance speaks displeasure it saddens my heart,
As the river is darkened when clouds on it fall;
But the smile of thy face can fresh brightness impart,
As the sun, with his light, can the gold wave recall.

The earth smiles in joy and the waters beam bright—
The heavens in thousands of gay lustres shine—
Then awake! my adored! add thy own cheering light—
For without thee I smile not; but in deep darkness pine.

Sept. 1834. ANNA.

[FOR THE NEW YORK AMERICAN.]

When this mortal shall have put on immortality, *then* shall be brought to pass the saying that is written, Death is swallowed up in victory.

Hear, earth, through all thy depths, the dread decree,
Jehovah's fiat, thou no more shalt be!
The gloom and glory of thy ancient brow
No more shall deck the firmament; and thou
Must cease the vasty steep of space to climb;
And sink, as thou began'st to mount, with Time.
But first, oh earth! deliver up thy dead;
All, all; the hand that smote; the heart that bled;
The unwasted, tear-wet form of yesterday;
The dust that knows ten thousand years decay;
The kindred atoms which disunion mourn;
The viewless ashes of the ruin'd urn!
Then, wreck'd in heapy chaos, forth be hurl'd,
And roll no more, a mortal bearing world.

Come forth, ye dead, to judgment! Lo, the doom
That veil'd and fed corruption, flies the tomb!
Death hidden in his deep'ning shadow lies,
And, Empire lost bewailing, shrieks and dies.
See! from its God the soul returns to be
The incarnate beautifier, dust, of thee;
And brightly waft thee to her native shores,
Whose spirit-hearted love all Love adores!
Now, now the triumph is indeed complete;
Death and the grave lie vanquish'd at the feet.
Arise, and breathe the life of endless day,
Above consuming worlds, and heavens that pass away!

L.

CHOICE WINES, &c.

THE subscriber offers for sale, a large assortment of Wines consisting of

MADEIRA—In pipes, hhds. and quarter casks, of different qualities and brands, part received direct, and part via East Indies. superior old L. P. in hhds. quarter casks, and half quarters.

Also—in cases of 1, 2 and 3 dozen each, old and choice.

SHERRY WINE—Pale and brown, in wood and glass, of different qualities, from 14s to 36s part of it imported by order.

PORT WINE—In hhds. and quarter casks. Also, in cases of 1 and 2 dozen each.

HOCK WINE—A large assortment, of various brands, qualities and vintages, in cases and hampers, some very old.

FRENCH WINES.—Sparkling Champaign, of all the favorite brands, quarts and pints, with and without wax on the corks. Also, Pink Champaign.

Sauterne, Vin de Grave, and Burgundy.

Bordeaux Claret, Lafitte, Chesteax Margeaux, Leoville, St. Etephe.

Low priced, in boxes and casks.

Muscat, in boxes and small casks. Old Malaga Sherry, a fine light wine, in casks of 18 and 30 gallons each. Marseilles Madeira, in quarter casks and Indian barrels. Canary, Malmsey and Teneriffe, &c. &c.

BOTTLES.—Wine, Porter and Claret, in hampers, one gross each. Demijohns.

HIBBERT'S PORTER.—London Porter, Brown Stout, and Pale Ale, in casks of 7 dozen quarts, and 8 do. pints.

SCOTCH ALE.—Younger & Co's Pale Ale, qts. and pints, &c. &c.

SALLAD OIL.—Bordeaux and Marseilles, in boxes and baskets. Olives, Capers and Anchovies.

FRUIT—Bunch and Muscatel Raisins, Almonds, E. I. Preserves and Canton Ginger.

COFFEE, &c.—Old Java and Manilla, Souchong Tea, Refine White Sugars, &c.

Part of the above are entitled to debenture, and will be sold in lots to suit purchasers. Orders received, and forwarded as directed. ROBERT GRACIE,

a27 20 Broad street.

UTICA AND SCHENECTADY RAILROAD COMPANY

PROPOSALS will be received until the last Monday of October next, at 12 o'clock at noon—

For grading about sixty-five miles of the Utica and Schenectady Railroad, between the Sand Ridge on Sanders' Flats in Schenectady, and the western boundary line of the town of Herkimer;

For the masonry within those limits, embracing the culverts, and the abutments and piers of the repective bridges; and

For the wooden superstructure of bridges across the Cayadutta Creek at Caughnawaga, the Garoga Creek at Palatine Church, the East Canada Creek at Manheim, the Gulph at Little Falls, and the West Canada Creek at Herkimer.

The line will be divided into sections of about one mile each, and prepared for examination, and maps, profiles and plans deposited for inspection with W. C. Young, the chief engineer, at Schenectady, ten days previous to the time above mentioned.

Blank forms of proposals will be furnished at an early day at the company's offices at Schenectady, Palatine, Little Falls and Utica.

The names of persons to whom contracts are awarded (who will not be permitted to sub-contract the same) will be made known at Schenectady on the 29th day of October, when it will be required that the grading proceed without delay, wherever, and soon as titles to the lands are acquired by the company; that the culverts and small bridges be completed by the first of August next; that the residue of the masonry and the large bridges be finished by the 1st of October thereafter; and that the grading be completed during the year 1835. Contractors to furnish security for the faithful performance of their contracts.

The use of ardent spirits to be prohibited in constructing the road.

Proposals, post paid, to be endorsed "Proposals," and containing the names of the persons offered as securities, to be addressed to the undersigned at Schenectady, or deposited at the company's office at that place. September 4, 1834.

G. M. DAVISON, Commissioner

s 17 to27 Utica and Schenectady Railroad Company.

TO RAILROAD COMPANIES.

☞ The subscriber having erected extensive machinery for the manufacture of the Iron Work for Railroad Cars, and having made arrangements with Mr. Phineas Davis, patentee of the celebrated wire chilled wheels, will enable him to fit up at short notice any number of cars which may be wanted.

The superiority of the above Wheels has been fully tested on the Baltimore and Ohio Railroad, where they have been in constant use for some months past. Having fitted up Wheels for six hundred Cars, the subscriber flatters himself that he can execute orders in the above line to the satisfaction of persons requiring such work. The location of the shop being on the tide-waters of the Chesapeake Bay, will enable him to ship the work to any of the Atlantic ports, on as reasonable terms as can be offered by any person. All orders will be executed with despatch, and the work warranted. When there are but a few setts wanted, the chills and patterns are to be furnished, or the company pay the expense of making the same, and if required, will be sent with the wheels. All Wheels furnished and fitted by the subscriber will have no extra charge on account of the patent right.

Samples of the above Wheels, which have been broken to show their superiority, may be seen at the office of the Railroad Journal; at the Depot of the Boston and Providence Railroad, Boston; and at John Arnold's shop, near the Broad street House, Philadelphia. All orders directed to J. W. & E. PATTERSON, Baltimore, or to the subscriber, Joppa Mills, Little Gunpowder Post-Office, Baltimore county, Maryland, will be attended to. DEAN WALKER a 30

☞ TOWNSEND & DURFEE, of Palmyra, *Manufacturers of Railroad Rope*, having removed their establishment to Hudson, under the name of *Durfee, May & Co.* offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania.

Hudson, Columbia county, New-York, January 20, 1833.

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroad

No. 264 Elizabeth street, near Bleecker street, New-York.

☞ RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.

J 25 1f

RAILROAD CAR WHEELS AND BOXES,

AND OTHER RAILROAD CASTINGS.

☞ Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

☞ THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m13

INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

☞ EWIN & HEARTTE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewin & Heartte.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable.

They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES F. STARLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit levels, and Surveyor's Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewin and Heartte—As you have asked me to give my opinion of the merits of those instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprize so well merits, I remain, yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same. m29

Rocky Mountain Correspondence.

[*From the Missouri Enquirer.*]

The following letter received by us may be interesting to a number of our readers. Mr. Edwards, (the author,) is a gentleman about 21 or 22 years old, and well known to many of our readers as a young man of worth and promise. His object at the Rocky mountains was to civilize the Flat Head Indians. He was employed by and accompanied the Messrs. Lees, who were appointed by one of the Eastern Conferences to establish a mission among the above-named Indians. We expect to hear from him again some time during the approaching Fall; when it may be expected that we shall have a more particular account of the country, and manners and customs of the natives.

Waters of the Colorado of the West, June 23.

With regard to our manner of living, I must here remark that the usual order of nature is inverted. The vulgar adage "bread is the staff of life," is here unknown, or if known at all, is known to be false.—Meat is here (to be a little pedantic) the *sine qua non.* I have often smiled to think how those friends with whom we have surrounded the festive board would laugh to see us seated, in the Turkish style, round a ponderous dish of buffalo meat, sometimes without salt, or feasting on the exquisite marrow of a bone with as much *gusto* as if he had literally obeyed the precepts of the Spartan cook. But you must not hence conclude that we have no variety. We sometimes have it fried, sometimes roasted, and sometimes boiled. A large copper kettle full of tea or coffee placed beside our other dish constitutes a r past on which we feed with appetites at which your pale and capricious dyspeptics might smile with a contemptuous sneer. Notwithstanding the watching, toils and privations of the journey, we have nearly all increased in health and strength.

A well delineated description of these hardy mountaineers would surely be an interesting production. At this great Western Metropolis, I mean the general rendezvous of mountain traders and trappers, you could see men from almost every country, and almost every shade of character, from the dark sons of Africa to the tawny aborigines, the creole Canadian, the once polite American, and the adventurous European.

Here is the hardy mountain veteran who has ranged these wilds for more than thirty years. Pecuniary emolument was perhaps his first inducement, but now, he is as poor as at first. Reckless of all provision for the future, his great solicitude is to fill up his mental insanity by animal gratification. Here is the man, now past the meridian of life, who has been in the country from his youth, whose connections and associations with the natives have identified his interest and habits with theirs.

To form an adequate conception of their apparel, you must see it. A suit of clothes is seldom washed or turned from the time it is first worn until it is laid aside. Caps and hats are made of beaver and otter skins, the skins of buffalo calves, &c. Some of these are fantastically ornamented with tails and horns. These ornaments may be badges of distinction, for aught that I know, but being a stranger in the country, I am not able to speak decidedly. You will perhaps recollect to have seen in the 'far west' of our own United States, the buckskin hunting shirt and leggings gracefully hung with fringes along the arms and side. But I am sure you have never seen the tasty fashion of fringes carried to perfection. Here they are six or seven inches long and hung densely on every seam, I believe, both of the hunting shirts and leggings. Indeed their weight is a great burden. But it is perhaps advisable, under existing circumstances, that I should leave your imagination to apply the picture. There is, doubtless, many a generous and magnanimous heart couched under the above general outlines, nor must you suppose that these remarks are applicable to all; for there are exceptions to all general rules.

Two gentlemen, a Mr. Pierce and Mr. Bush, I understand, fell victims to the savage malevolence of the Black Feet Indians, a short distance from this place, some time last winter.

Professor Nuttall, of Cambridge, Massachusetts, who accompanied us for the purpose of making botanical inquiries, has met with the most flattering success. Mr. Townsend, the ornithologist, from Philadelphia, who also accompanied us, has surpassed his most sanguine expectations. Last evening he informed me that he had discovered fifteen new species of birds, six that were doubtful, and twenty that were lately found. It is the intention of both these gentlemen to explore the Oregon Territory.—From their unremitted exertions, I fondly anticipate that the result of their labors will be many interesting accessions to their respective sciences.

We left Liberty, as you may recollect, on the 25th of April, and arrived at this place (a distance of about eleven or twelve hundred miles) on the 20th instant; few difficulties having occurred on the way, excepting those which are inseparable from the trip. We have not been further north than latitude 43 degrees and 10 seconds, which was on Sweet Water, a tributary stream of the Platte. We are now in latitude 41 degrees 43 seconds, longitude 112 degrees 34 seconds west from Greenwich. I must here remark that much credit is due to Captain Wyeth, for the manner in which he has led us forward. This gentleman unites in his character, qualifications not always to be be found, untiring prudence and circumspection, with unhesitating bravery and perseverance.

In a company composed of such a variety of characters as a Rocky Mountain Company usually is, it might reasonably have been expected that we should sometimes be placed in disagreeable circumstances, yet it is due to the whole to say, that we have almost invariably been treated with politeness and respect.

On our arrival at this place, we saw some few of the Indians, among whom it is expected we shall locate. They appear eager for instruction in literature and the principles of the "White man's religion." From this circumstance, and the information we have been able to collect from other sources, we indulge a pleasing hope that open arms await us.—Surely every philanthropic heart must ardently desire the dissemination of knowledge and revealed truth among this honest, moral, and yet superstitious and unhappy people.

The distance we have yet to travel before we reach the Pacific Ocean is estimated at something like a thousand miles. We will then have to retrace six or seven hundred miles of our journey. But with regard to our future operations my information is very vague and imperfect. I remain yours, with sentiments of respect.

P. L. Edwards.

ALBANY SEED STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, *warranted* of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures here after, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurtzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of *Farmers.*

W. THORBURN,
347 N. Market st. (opposite Post Office.

☞ Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better justice can be done in the execution.

*** Mr. Thorburn is also Agent for the following publications, to wit:—

New York Farmer and American Gardener's Magazine.

Mechanics' Magazine and Register of Inventions & Improvements.

American Railroad Journal and Advocate of Internal Improvements; and the

New-York American, *Daily, Tri-Weekly,* and *Semi-Weekly, either* or *all* of which may be seen and obtained by those who wish them by calling at 347 *North Market street, Albany.*

PATENT HAMMERED SHIP, BOAT, AND RAILROAD SPIKES.

☞ Railroad Spikes of every description required, made at the Albany Spike Factory.

Spikes made at the above Factory are recommended to the public as superior to any thing of the kind now in use.

Ship and Boat Spikes made full size under the head, so as not to admit water.

Orders may be addressed to Messrs. ERASTUS CORNING & CO., Albany, or to THOMAS TURNER, at the Factory, Troy, N. Y. sept. 13 1y

RAILWAY IRON.

☞ Ninety-five tons of 1 inch by ¼ inch, *Flat Bars* in
200 do. 1¼ do. ¼ do. lengths of 14 to 15
40 do. 1½ do. ¼ do. feet counter sunk
800 do. 2 do. ¼ do. holes, ends cut at
800 do. 2½ do. ¼ do. an angle of 45 degrees with splicing plates, nails to suit.
season expected.

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels

Axles of 2⅛, 2⅜, 2½, 3, 3⅛, 3⅜, and 3½ inches diameter for RailwayCars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON,
9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them. d71meowr

LOCOMOTIVE ENGINES.

☞ THE AMERICAN STEAM CARRIAGECOMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines. and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1-2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal pine wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company,
WILLIAM NORRIS, Secretary.

December 2d, 1833.

Fr further information on this subject see No. 49, page 772, Vol. 2, of Railroad Journal.

NOTICE TO MANUFACTURERS.

☞ SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 15, 1833. A29 tf RM&F

SURVEYORS' INSTRUMENTS.

☞ Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, J31 6t corner of Maidenlane.

SURVEYING AND ENGINEERING INSTRUMENTS.

☞ The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely *new:* among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes. WM. J. YOUNG,
Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later al angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,
JAMES P. STABLER, Superintendant of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors. E. H. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad., Germant. and Norrist. Railroad
ml 1y